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CHOLERA AT SUNDERLAND.

From the Author.

ON

THE APPEARANCE OF

CHOLERA

AT SUNDERLAND IN 1831;

WITH SOME ACCOUNT OF THAT DISEASE.

BY

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P R E F A C E.

IN presenting to the public an account of the appearance of Cholera at Sunderland, the Author is sensibly impressed with the great responsibility he has incurred ; and, in detailing the circumstances connected with the origin and progress of a pestilence, which in course has been attended with a great sacrifice of life, and affected the industry and commerce of the country, he has implicitly adhered to facts connected with that event, and in many instances founded on his personal observation. At the period when the alarm first commenced as to the probable introduction of Cholera into England, he was stationed at Sunderland with the Reserve Companies of the 82d Regiment ; and from having previously had an opportunity of witnessing that disease, he was invited to join the medical department of the Local Board of Health, which afforded him an opportunity of suggesting the adoption of measures calculated to avert the threatened visitation, and of recommending the most likely means of arresting

the spread of the pestilence. On a subject of such moment to medical science, it is to be lamented, that as yet no authentic report has been published respecting the origin of Cholera in England. Such a publication would, in the Author's opinion, have been attended with the advantage of pointing out the infectious or contagious nature of the disease, and the manner in which it has been propagated. The Author has long indulged in the expectation of a statement of this nature from the "Central Board of Health," founded on the reports forwarded from Sunderland, and ultimately from all parts of the kingdom.

It may appear necessary to offer some apology for the appearance of the present work ; and in doing so, the Author has to mention, that the intention of giving publicity to transactions connected with this national calamity arose from the circumstance of the Army Medical Board having, in September 1832, called on the medical officers of the army to forward reports on the history, causes, symptoms, and treatment of cholera, as it occurred to their observation. In compliance with that request, the Author forwarded a report, which may be considered as the basis of this narrative. The archives in the office of the Army Medical Department are accessible to the profession at large, and frequent advantage is taken by medical writers on various subjects to refer to these documents. The Author has, however, considered it imperative, in justice to himself, as well as on account of the importance of the subject, to give in the following pages a more minute and

explicit statement of the circumstances connected with the origin of cholera at Sunderland, than he possibly could have done at the time when he forwarded his report to the Medical Board.

If the defects he has pointed out in the Quarantine system, and the evil consequences which resulted from the want of public institutions for the accommodation of the afflicted, should influence the adoption of more efficient measures on any similar occasion in this country, he will feel amply recompensed for the trouble and anxiety to which he has been exposed.

The opportunity afforded of adopting the plan so generally practised on the Continent, of excluding cholera from communities by preventing the intercourse of the healthy with the infected, was followed in regard to the soldiers of the 82d Regiment and their families, and with a result which exceeded the utmost hopes not only of those who effected the measure, but also of those who endured the irksomeness of confinement. This important fact may be considered conclusive as to the possibility of arresting the extension of the disease, and is calculated to excite deep regret at the omission of the requisite sanitary restrictions at Sunderland.

From the discrepancy of opinions which prevail respecting the remote and proximate causes of this extraordinary disease, the Author anticipates severe criticism and animadversion ; he, however, will rest satisfied with the views he has taken of it, and the part which he acted

at its occurrence, unless very conclusive evidence be adduced of a contrary nature. He is sensible of the difficulties which present themselves to an individual unaccustomed to write for the public, and aware of the imperfections of his publication.

EDINBURGH CASTLE,

31st October 1833.

CHOLERA AT SUNDERLAND.

FEW events have occurred in this country which have attracted so much attention, or exercised so powerful an influence over the public mind, as the pestilence called "Cholera Morbus." This disease at first aroused the attention of the inhabitants of Hindoostan, from its appearance as an epidemic at Jessore in Bengal, in August 1817; its subsequent extension, and the misery which it inflicted on the population of India and eastern parts of the Ancient World, excited the deepest sympathy in the minds of the humane and reflecting part of mankind.

Like other plagues of eastern origin, it was hoped and believed that cholera would have been limited to that portion of our globe; and for many years that expectation was fully realized. However, in the autumn of 1830, the spell which was supposed to have protected Europe from the visitation of this cruel scourge was broken, and the disease was officially announced to have occurred at Moscow in September of that year.

Lord Heytesbury, the British ambassador at the Court of Russia, was the first to make known this unwelcome information, in a despatch to his government. In that communication, his Lordship expressed his fears that the disease would spread over the south and west of Europe, unless it was extinguished

by the severity of a Russian winter. Unfortunately for mankind, the pestilence triumphed over the climate, which a few years before had destroyed the mighty armies of France; and with the return of spring, and renewal of commercial intercourse, his Lordship's suspicion was too fatally confirmed.

Upwards of a century and a-half had elapsed since the British isles were afflicted with any of those awful visitations which so frequently occurred in our early history: and on the appearance of cholera in the great commercial cities of the Baltic, in the latter end of May 1831, the attention of government, and the public in general, was directed to the adoption of measures, with a view of guarding against its introduction into this country.

From the discrepancy of opinions which prevail respecting the character and nature of this modern plague, I conceive it essential to insert a history of it, as published in two highly respectable and popular periodicals, proving the just cause for apprehension so generally entertained.

THE SPASMODIC CHOLERA.

(*Abridged from the Asiatic Journal for December 1831.*)

“The origin of the disease, improperly termed Cholera Morbus, is involved in obscurity; not less, indeed, than that of most virulent communicable maladies. It is not difficult to conceive, nor is the idea incongruous with the theory of the animal economy, that the virus of a disease not at first infectious or contagious, may be exasperated by a variety of causes into such malignity as to generate an effluvium, which would carry with it the germs of the disease into another system; and if these germs continue to be nourished, and their malignity is increased by the presence of similar causes,—whether in the individual or in the atmosphere he breathes,—a mass of communicable miasmata is created, sufficient to constitute a contagion.

“Without venturing, however, into the mazes of theory, it is sufficient to state, that the disease, in its present character, first developed itself in a formidable shape, or at least attracted notice at Jessore,—a district in the Delta, traversed by the lesser channels of the Ganges, the southern portion of it being in the

Sunderbunds, consisting of marshy tracts, formed by the alluvion and changes of the channels, and covered with jungle. The town of Jessore, or Moorley, about one hundred miles from Calcutta, is small, and notoriously unhealthy.

“ The disorder began to prevail at Jessore about the 20th of August 1817; and its sudden ravages in the Jessore, Moorshedabad, and Rajshage districts, as well as at Calcutta, which it reached in September, excited the utmost alarm. In an account of the epidemic, written by an intelligent person at Calcutta, the origin of the disease is attributed to the use of unwholesome food, viz. bad sable-fish, and ouze or new rice, in conjunction with the extreme heat and drought of the season, followed by heavy rain and an extremely variable temperature; and with the want of free ventilation at Jessore, and its situation amidst rank vegetation.”

“ When it somewhat abated in Calcutta and its vicinity, the epidemic had extended into Bahar; and in September and October was wasting Dinapore, Patna, and other large towns in the upper provinces, in some of which the deaths were near a hundred a day. In November it unhappily reached the centre division of the grand army under the Marquis of Hastings, whilst marching easterly from the Sindh (branch of the Ganges) where it developed itself in its most terrific form, assailing Europeans as well as natives. It attacked the division on the 14th of November; and for about ten days the camp was converted into an hospital, the deaths, which were unusually sudden, amounting to a tenth of the number collected. The roads were strewn on each day's route with the dead and dying, owing to the impossibility of finding means of transport. Here, as in other places, the disease ran its course, and abated in about a fortnight, which was then ascribed to the army's reaching, in its advance, a purer air, but which has since been found to be one of its characteristics.”

It is worthy of remark here, that the infectious or contagious nature of the disease was doubted and denied at this early period of its career. In a report by Mr Corbyn, then assistant-surgeon in charge of the native hospital of the centre division, dated Erch, on the Betwa, November 26, 1817, and published by order of the government, he observes:—“ That this

disease is not infectious, I am perfectly convinced; all my attendants upon the sick have escaped the disease; and I have more particularly, at all hours of the day and night, respired the atmosphere of a crowded hospital with impunity." Extruding itself in various directions through the interior of India, it began to threaten our western presidency. In June 1818, it was at Nagpore; in August it reached Puderpoor, where it carried off 3000 of a comparatively small population, Poonah, Panwell, and Bombay. In September it had reached Surat, and even Bassein in the Persian Gulf. Its progress in central India had been equally rapid. In September 1818, it had spread itself through Rajpootana, where its ravages were fearful. Singular, however, to say, here, as well as in most other parts of India, in the early visits of the disease, Europeans were rarely victims to it. We know instances of British officers, who had attendants dying of cholera in their very tents, escaping its attacks. Such circumstances are cited as proofs, though they are very equivocal ones, of its non-contagious nature.

The entrance of this terrific pest into the Madras territories, in August, was marked with circumstances of eccentricity. Whilst it raged at Ellore, Rajamundy, and other places, it left the Nizam's territories, on the north and north-east, *pro hac vice*, perfectly free and untouched.

Between the period of its eruption in the month of August 1817, and June 1818, before it reached either Madras or Bombay, it was computed that 150,000 persons had fallen victims to this plague, in the Company's territories alone; and whole villages are represented to have been depopulated by death, or flight through fear of death. M. Moreau de Jonnès has calculated, upon what data we know not, that one-tenth of the population of Hindoostan was, in the whole, attacked by the epidemic, of which number one-sixth died.

"In November it left Madras, where it first appeared in October, and attacked the French settlement of Pondicherry, and other places on the coast of Coromandel to the southward. From the peculiarity of its progress, it is difficult to avoid a phraseology which does not appear to sanction a vulgar notion entertained by the superstitious Asiatics, that the cholera morbus is a spirit or demon, moving in malignant wrath from place to place; and,

in compliance with this notion, it is almost universally the practice, from Ava to Persia, and even in China, for the villagers to endeavour to ward off its approach by clamour and discordant noises, from ‘drums and timbrels loud.’

“The next year (1819) the malady extended the scene of its operations, and proved that it was entirely independent of climate and temperature; for, whilst in January it reached Ceylon, it attained, in June, the valley of Nepaul, from whence it penetrated over the Hamalaya into Tibet and Tartary, in defiance of snows and a rarified atmosphere. The exhalations of the valleys in Tibet are supposed to have exerted a pernicious influence upon the disorder, and accelerated its activity.

“Towards the latter end of the year, the disease had established itself in the Ultra-Gangetic peninsula, having devastated Arracan, Malacca, and Penang, at both of which latter places the mortality was great. Of the small population of the island of Penang, it swept away, from the 23d of October to the 14th of November, upwards of 800, principally Chuliahs, or inhabitants of the Coromandel coast.

“Its introduction into the island of Mauritius was attended with circumstances of some importance as respects the theory of contagion. The disease appeared extensively in the island in November 1819, and has been supposed to have been brought thither from Ceylon by the *Topaze* frigate, which arrived at the Mauritius in October. But a careful inquiry into the circumstances of the case convinced a committee of British medical officers, that the disease was not imported, nor of foreign growth. In their report, dated 4th December, they state, that the first case occurred so early as the 6th September; and that ‘they feel the strongest persuasion that it is not of a contagious nature, and that it is not of foreign introduction.’ In these two conclusions the French medical gentlemen unanimously concurred, and both considered the disorder as promoted, if not produced, by the great and sudden vicissitudes in the temperature. The report adds, that a similar epidemic prevailed in the colony for some time in the year 1775. In a report by Dr Burke, the chief medical officer, the disease is stated to have burst forth suddenly on the 18th and 19th of November, ‘in all quarters of Port-Louis;’ from whence it spread into every district of the

island, affecting some with extraordinary severity, whilst others were but slightly affected. It ceased throughout the island in the beginning of January 1820, after carrying off about 20,000 persons, nearly one-fourth of the whole population.

“ The decided and consentient opinions of the medical practitioners of Mauritius, as to the non-contagious nature of the disease, did not prevent the French government of Bourbon from adopting quarantine regulations for excluding it from thence. The result was, that the island escaped almost entirely the visitation of the disorder. The clandestine landing of a cargo of slaves from Mauritius did, indeed, communicate it to a spot in February 1820; but it worked but slight mischief, and was soon subdued.

“ The year 1820 saw the circle of this dreadful scourge enlarged in a frightful degree, it having spread through the whole of the vast Indo-Chinese countries. In September it was committing dreadful ravages in Siam, the entire country being in a deplorable state through the disease, and the misery and starvation consequent on its visitation. No less than 40,000 persons died in the city of Bankok alone. In Cochin-China and Tonquin, the devastation created by it was not inferior. At Manilla, too, it raged dreadfully in November. But this period of the history of the disorder is remarkable, from its first invading China.

“ While extending its dominion over the mighty empire of China, the disease was equally active in overrunning other countries. In the latter part of 1820 and beginning of 1821, it invaded Sumatra *via* Acheen, on the north-west, extending soon to Palembang on the south-east, where the victims fell by thousands. In April 1821 it broke out in Java, simultaneously, it is said, at Batavia, Samarang, and Japard, the weather being represented as unusually dry and hot. The deaths in the island of Java have been computed at 100,000. At the other remote point of its advance, in the extreme west, the disease also pushed its encroachments very far,—in 1821 up the Persian Gulf into Persia, Mesopotamia, and Armenia. In June it was at Muscat, where it carried off 10,000 in one month; and at Gambroon it destroyed one-sixth of the population. The effects of the epidemic in this quarter seemed more sudden than in India, and its pro-

gress was more rapid. Along the coast of the Persian Gulf it committed great ravages. At Bushire, in fifteen days, it swept off 14,000; at Bussorah it destroyed about 18,000 out of 60,000 inhabitants; at Bagdad, a similar proportion, or about one-third; throughout Mesopotamia and Armenia, from one-fourth to one-third of the population (attacked we presume) is said to have perished. In Arabia, one-third of the inhabitants of the towns visited by it died.

“ Its career in Persia is also marked by events which are important guides to our conclusion as to the communicable property of the disease. It got footing in the interior of Persia in July 1821. In September it had reached Shiraz, where, in eighteen days, it carried off 6000 out of a population of 40,000, including three individuals of the prince governor’s own family. At this time it was rapidly spreading throughout the country, taking off one-sixth of the inhabitants of the principal towns. At Tabreez, where the prince-royal’s court is kept, and at Tehran, precautions, which, with characteristic indifference, were neglected elsewhere in that country, were rigidly enforced to prevent the introduction of the malady; and it is an important fact, that both, in 1821, enjoyed an immunity from its visitation. In the following year, when the disease had spread from Mazanderan, in the west, to Azerbaijan in the east of Persia, even as far as Erévan in Armenia; and when, consequently, the necessity for precautions became greater, they were unaccountably neglected, in consequence of which, as the contagionists assert, Tabrecz became infected, and 4800 persons died there by the cholera in twenty-five days.

“ Having thus pushed its advances as far as the borders of the Caspian Sea, it threatened Europe by the way of Russia; and having also got to Syria, where it was peculiarly destructive, it approached Egypt, and menaced Europe in that quarter. Egypt was, however, protected by the sanitary precautions adopted by the viceroy, at the suggestion of the Council of Health in France, and the disease ceased at its frontiers in 1823. The precautionary steps adopted at the Cape of Good Hope in 1821 having prevented its passage to Europe in that direction, Russia was the only route which seemed a practicable one for the advance of this dreadful malady to the European continent.

“ In September 1823, it made its appearance at Astrachan, and almost simultaneously in the Russian flotilla in the Volga. The danger was alarming. Severe precautions were instantly taken to arrest the progress of the disease. An unusually early appearance of cold weather is supposed to have co-operated with those precautions, and the disease was stopped, and considered to be exterminated. The snake, however, was ‘ scotched, not killed.’ In the years 1829 and 1830, it spread again over Persia ; ravaged Tehran, which had previously been preserved by sanatory precautions, having been completely isolated, followed the margin of the Caspian Sea till it reached the Kur, which it ascended, and got to Tiflis, where it destroyed upwards of 20,000 persons. It again appeared at Astrachan in July 1830, where it carried off two-thirds of the population. Thence it proceeded up the Volga ; and on the 28th of September 1830, two months after its appearance at Astrachan, distance upwards of one thousand miles, it broke out in Moscow.

“ It is needless for us to pursue the history of the terrific march of this disease further. Those who wish for exact and detailed information respecting its later progress, we refer to the statements given in our Journal from M. Moreau de Jonnès, who, with fruitless sagacity, foretold, that the march of the Russian troops in the Polish war from the very provinces which had been infected by the cholera into Podolia and Volhynia, would import the disease amongst us. The disease was communicated by the Russian troops to the Polish army at the battle of Ostrolenka, fought on the 26th May 1831, and has since been disseminated in other countries on the European continent.

“ Having thus traced the progress of the cholera morbus, in all its successive stages from India to Europe, along the routes of public traffic, by sea and land, it might appear at first sight a work of pure supererogation to insist upon its contagious property. Certain it is, however, that, in spite of the almost overwhelming argument derived from the march of the disease, its contagious or communicable property is even now doubtful and denied.”

The following article on cholera, and the history of its introduction into Europe, inserted in the Edinburgh Me-

dical and Surgical Journal for January 1832, I feel much satisfaction in transcribing; in consequence of the singular coincidence in many of the circumstances connected with its importation into England.

“ In approaching this subject (the contagious or non-infectious nature of cholera) we must admit that the inquiries of a cautious searcher after truth, are surrounded in many quarters with serious difficulties, and that every man accustomed to judge of the relative value and trust-worthiness of evidence, will be inclined to the opinion, that not a few of the facts, by which the controversy as to the contagious or infectious nature of cholera is to be decided, are undeserving of confidence.

“ These impressions must have forcibly suggested themselves to every person of common sense, since the occurrences which took place at the breaking out of the epidemic at Sunderland. There, for a long time, we hesitate not to say that truth was quite unattainable; and we believe that few will doubt this, who may take the trouble to read the narrative on the Sunderland cholera in our medical intelligence. Under the impulse of strong private interest, falsehood was propagated with such zeal in every quarter, that the daily press was almost universally imposed on, and, ignorantly we hope, did its utmost to deceive the public, and lull the watchfulness of government. When it is thus seen, how difficult it is to arrive at a knowledge of the truth in our own enlightened land, in a commercial city full of intelligence, and in a situation where every man's actions and opinions are made the object of constant observation and public comment all over the country, it may very naturally be asked, what reliance can be placed on facts collected in continental countries, in circumstances even more favourable to the perversion of truth, where private interest must engender even stronger prejudices, and where public opinion has comparatively no counteracting influence, because it has no outlet for expressing itself; accordingly let us look for a moment to the case of Astrachan, the fatal spot where malignant cholera first obtained a footing, previously to its dissemination over a great part of Europe, when this part was visited by the epidemic in 1823.

“ It was universally alleged by the inhabitants, that no trace of its importation could be detected; and the local board adopt-

ed this opinion. But subsequently on the appointment at St. Petersburg of a committee, who were despatched to Astrachan to make all necessary inquiries into the circumstances attending the origin of the disease, it was discovered by the diligence of Dr Rehmann, president of the board, who personally examined all the ship lists, that among thirty-four vessels which had arrived at Astrachan from the shores of the Caspian during three months before the commencement of the epidemic, there were several whose crews had landed at ports where the disease prevailed at the moment, and that on board one of them eight of the crew died of cholera. On the second visitation in 1830, the local board of Astrachan, consisting entirely of medical men, fell into errors even more disgraceful, and gave utterance to so many false statements, that it is scarcely possible to acquit them of a willingness to deceive. In a report delivered to the Governor General of Moscow on the 11th of last February, when the disease had ceased for some months, and they had ample opportunity, one would think, to execute dispassionately the task imposed on them, they lay down among other propositions the four following.

“ The disease appeared first on board the brig Baku, 100 wersts (66 miles) from Astrachan ; this vessel came from the island of Sara, which was healthy ; and, besides, quarantine was in force at the landing-place. Consequently the disease has arisen independently of infection, and has propagated itself to Astrachan in defiance of quarantine, and therefore is a non-infectious disorder.

“ Medical men were not attacked, although they very often came in contact with patients, their clothes, their blood, and their evacuations.

“ The personal attendants, too, of the sick, continued healthy in spite of frequent contact, and any of them who did fall sick, it arose in consequence of the same miasmatic non-infectious influence, through means of which other persons were attacked without having been in communication with the sick.

“ In the year 1823, when the cholera prevailed at Astrachan, no precautionary measures were taken, and yet the disease did not pass onward into Russia.

“ But what was the true state of matters on all these import-

ant heads? The brig Baku had communication with the Caspian Port of the same name, which is near the island of Sara, and where the cholera prevailed at the time. Instead of the physicians remaining unaffected, Dr Soloman, the only medical man in the place who did not give into the opinions of his brethren, distinctly says that three were attacked by the epidemic in its characteristic form. As to the personal attendants on the sick, the same authority reports that ‘very many of the hospital attendants died, few of them escaped an attack, and of the female attendants not one.’

“In short, that in persons of this denomination the disease prevailed to a much greater extent than throughout the general population. Lastly, as to the alleged limitation of the epidemic in 1823 to Astrachan, notwithstanding freedom of intercourse with the adjoining country, Dr Rehmann, president of the St Petersburg Board, gives his assurance that the local authorities of Astrachan, disregarding the opinion of the medical board, absolutely drew a cordon of troops round the town.

“It will be apparent, then, how much caution must be observed in relying on the facts which are the ground-work of the inquiry into the mode of origin and progress of this disease. It will likewise, however, be apparent on consideration, that it is the facts of the anti-contagionists, much more than those of the contagionists, which are subject to falsification, at least so far as falsification may arise from its most common cause,—private interest on the part of the witnesses who supply them.

“With these prefatory words of warning to those who might plunge heedlessly into the present question, we shall proceed to state the reasons which, in our opinion, leave no doubt that, in some circumstances not yet accurately ascertained, the malignant cholera spreads by communication from man to man. The first argument in favour of the contagious nature of cholera, but one which lies so much on the surface, and has been so often urged on the public, that any commentary on it would be superfluous, is the circumstances of its progress from India over the whole eastern hemisphere of the globe.

“In the course of fourteen years it has advanced eastward to China, southward to Ceylon, northward to Archangel, westward to Britain—raging at all seasons of the year, in all terrestrial

temperatures, from the highest tropical heat to the lowest Arctic cold,—in all states of the air as to humidity, barometric pressure or wind, at sea and on land,—on all soils, from the most moist to the driest, from the most barren to the most fertile,—at all elevations from the level of the sea, to the highest inhabited region, among all races of mankind whose country has hitherto come in the way of its march,—in all varieties of political condition, or civil station,—in short, in every variety of circumstance in which it is possible to regard human beings. Is there any disease of acknowledged miasmatic origin, to which the same observation can be applied? Is there any other mode of explaining why malignant cholera seems as it were to seek man out wherever he congregates, except by admitting that he carries it with him from congregation to congregation? Again, in this progress it is seen advancing from country to country, not according to any peculiarity of soil, climate, or weather, but simply according to the great routes of commercial communication. In Persia it appeared first in 1821, not on the land frontier towards the east, where the sandy deserts of Baloochistan and Kaubul establish a difficult barrier to communication with the northern parts of India, but at the three principal parts of the kingdom, Muskat, Busheer, and Bussora. From the southern frontiers of Persia it is traced in two streams, one up the Tigris to Bagdad, and thence along the caravan route to Aleppo and the Mediterranean, the other from Busheer through the central roads of the Persian empire to Tabrecz, Reschd, Baku, and other cities on or near the Caspian. In Russia it first appeared at Astrachan, the port on the Caspian, between which and the infected districts of Persia commercial intercourse is carried on to the greatest extent; then in 1829 it broke out first at Orenburgh on the extreme eastern frontier, the first resting-place in the Russian empire for the eastern caravans on their way westward; again, in 1830, it burst with fury a second time at Astrachan; and, from this point, it quickly spread along the Wolga, the great channel of communication between the south-eastern frontiers and the heart of the Russian Empire. While following the course of this river to its source, it, at the same time, struck at one point across the country of the Don Cossacks along one of the great highways, and subsequently

established another lateral line of march where the great road from Moscow crosses the country to meet the Wolga. Once in the heart of the Russian Empire, it soon spread as from a centre in all directions, making its first long stride westward into Poland, between which and the central parts of Russia an unusual degree of intercourse was maintained by the march of the levies for the Polish war. The moment it touched the Baltic at Riga, we find it no longer creeping from place to place as in its progress through inland parts, but springing quickly from one great port to another, leaving the intermediate places of small commercial resort at first untouched, and likewise passing slowly and but to a short distance inland at each point successively visited. At length clearing at its next step about five hundred miles of sea, it appears first in Britain, which of all the remaining European countries has the most direct and most frequent communication with the Baltic; and the first place at which it appears, as in all other instances where it has attacked a sea-bound country, is a great sea port in constant communication with cities where the disorder prevailed. If, quitting these great features in its mode of advancement, we endeavour to trace it minutely as it spread over a limited district, the same general law will be found to govern its march. Constantly it has spread along the highways, frequently has accompanied the migrations of bodies of men, such as the movements of troops in India, Persia, Russia, and Poland; or the progress of the caravans and pilgrimages. Farther, in its progress it has not only followed the great lines of commercial intercourse between country and country, but likewise has advanced along those lines with a rapidity proportioned to the facility and swiftness of communication. It took nearly a year to cross the peninsula of India from Calcutta to Bombay, and in another inland direction to ascend the Jumna to Delhi and Meerut. After its appearance on the southern frontiers of Persia, two years elapse before it appeared at its northern frontier towards Russia. But after its arrival in Russia, its progress along the frequented highways of that empire, and among the busy ports of the Baltic, has been comparatively far more rapid. In the same space of time which the disease took to travel a thousand miles in India, it has cleared nearly thrice the distance since its arrival in Europe. A very striking

fact, which may properly come under this head, is, that when the interval to be cleared has been sea alone, the distance which it has sometimes appeared to overleap in a short space of time has been sometimes inconceivably greater than has ever been remarked on land. The infected parts on the continent which are nearest Sunderland are at least five hundred miles distant; the Mauritius, to which the disease appeared to pass in a few weeks from Ceylon or the Indian Peninsula, is two thousand leagues from the nearest parts of Hindoostan.

“ But still further, wherever in its progress the freedom of intercourse has been for a time interrupted, its march in like manner has been for a time arrested, or even stopped altogether. In 1823, the enforcement of quarantine by sanatory lines of troops confined the disease to Astrachan, and extinguished it; in 1829, and beginning of 1830, the Orenburgh epidemic advanced westward at many points; close to the sanatory lines then established, but nowhere pierced them; and was thus, in fact, a second time extinguished. In 1818 and 1819, the north-west stream from Calcutta, along the Jumna, and onwards towards Kaubul, seems to have gradually lost itself in the sandy deserts,—at least for many years did not reach the cultivated region of Orenburgh. In 1819, after ravaging the Mauritius, where no quarantine was established, and slipping into the adjoining isle of Bourbon in defiance of quarantine, it was confined in the latter place by sanatory lines to one spot, and extinguished. And during the frosts of last winter, while the disease, notwithstanding the cold, continued to rage in various large towns of Russia, its further progress was nevertheless arrested, or at least most materially retarded, till spring returned and restored the facility of communication throughout the country. It is true that, in very many instances the strictest possible internal quarantine could not succeed in excluding it. That such should be the result of attempts at land quarantine by sanatory lines in the populous parts of Europe, accustomed to the utmost degree of daily intercourse, cannot appear surprising. To look for the rigorous enforcement of quarantine in such circumstances, has certainly always appeared to us a very vain and weak expectation. And, accordingly, in Russia, Austria, and Prussia, where an unlimited command of troops, and the despotic nature

of the governments present great advantages for the establishment of internal quarantine, the sanatory lines have been everywhere overstepped by the disease again and again, after it had reached the more civilized parts of Europe."

"The second argument in favour of the infectiousness of cholera is, that in a great majority of instances where it has broken out in new territories remote from its previous seat,—at least since it has arrived in civilized countries, in which alone we can rely on the attention of the inhabitants being alive to approaching events, and capable of making the requisite observations with accuracy, it has been found to succeed, after a short interval, the arrival of persons from places where the disease prevailed. At Mauritius, removed by an immense space from the nearest abode of the epidemic at the time, it broke out three weeks after the arrival at Port Louis of a king's ship from Trincomalee in Ceylon, where the crew had suffered from the disease.

"The anti-contagionists have denied this fact; but the recent publication of an extract from the journal of the surgeon of the vessel, written at the time the event occurred, leaves, in our opinion, no room for questioning the authenticity of the original statement. According to this extract, while his Majesty's ship *Topaze* lay at Trincomalee, two of the crew died of malignant cholera on the 16th and 20th of September 1819, others also being attacked who recovered; on the 9th of October the vessel set sail, carrying all her sick but one; immediately afterwards the cholera broke out, attacked seventeen persons, and proved fatal to four; on the 29th of the same month the ship reached Mauritius, when thirty of the sick were immediately landed and put under the care of the military surgeons of the place;* here

* The practice which exists in ships of war, of sending the hammocks and boxes of sick sailors or marines on shore with them, I have long considered as the most likely means of propagating diseases of an infectious type. The fatal consequences which were supposed to have arisen from landing the sick of the *Topaze* frigate at Port Louis, in October 1819, influenced me in regard to the admission of that class of people into the 82d Regimental Hospital.

In May 1824, his Majesty's frigate *Leven*, Captain Owen, arrived at Port Louis with a numerous sick list, after having lost many officers and private men on the coast of Africa. On receiving the order for the admission of the sick of that ship into hospital, I stipulated with the surgeon, that no article of bedding or baggage should be sent with them, nor would it be received; but that each patient should be provided with clean linen, trowsers, and stockings, which was complied with; and, I am of opinion, with advantage to the health of the place.—AUTHOR.

several died,—four in consequence of the sequelæ of cholera ; and three weeks after they were landed the disease appeared among the inhabitants.—(*Medical Gazette*, Nov. 19, 1831.) In 1823, a similar leap was taken over an uninfected space of several hundred miles from the southern shore of the Caspian to Astrachan ; and here, too, the epidemic followed the arrival of vessels from ports where the disease was raging. By the examination of the ship-lists, it appeared that, between the 1st of July and end of September, thirty-four vessels arrived at Astrachan, several of which had in their voyage touched at Leuloonan, Sallian, and Baku, where the cholera prevailed ; and that one of them, the *St. Andrew*, lost eight of her crew from the disease ; it was subsequently to the arrival of this vessel that the disease broke out in the town, but the interval is not mentioned in any document which has come under our notice. Again, in 1830, the very same stride was taken, and under precisely the same circumstances. The ship *Baku*, from the island of Sara, touched during its voyage at the Persian port of Baku, where cholera prevailed ; after its arrival in quarantine, the disease appeared on board, and the patients were treated in a lazaretto adjoining the anchorage ; and about three weeks subsequently, cases began to appear among the inhabitants of the town. The first appearance of the disease at St Petersburg was marked by circumstances of an analogous nature. The first five cases occurred on the 26th of June, in persons who either had just arrived from infected towns at some distance in the interior on the banks of the Wolga, or resided close to the quays, where the barks of the same town performed quarantine on their arrival at the capital ; and it is added, that the quarantine rules as to the purification of goods were both very insufficient, and enforced in a very careless manner. It may with much reason be affirmed, that the epidemic has made its first appearance in Britain under circumstances not materially different. It broke out first in a sea port where the quarantine station was so preposterously situated, that suspected vessels had to work their way to it through the shipping in the harbour, and where the quarantine restrictions are said to have been notoriously disregarded ; and in this place it made its first appearance close to the quay. It is true that, so far as we can understand, no trace has been hitherto

detected of its passage from any suspected vessel, to the individuals who were its first victims. We might easily extend these illustrations to an indefinite length ; but enough, we apprehend, has been said to show that in many places to which cholera has passed by a long stride, it appeared either immediately after the arrival and illness of persons from infected parts, or, at all events, in circumstances where the recent arrival ‘ of such persons was very strongly and reasonably suspected.’—(*Edinburgh Medical and Surgical Journal for January 1832.*)

At the period of alarm as to the probable introduction of cholera into England, I was stationed at Sunderland with the reserve companies of the 82d Regiment, and had the pleasure of being acquainted with Drs Brown and Clanny, resident practitioners there. These gentlemen being aware that I had had extensive experience in the symptoms and treatment of Asiatic cholera during my residence at Mauritius, requested me to attend a general meeting of the Board of Health, to which I immediately acceded, and was invited to become an honorary member. The meeting was numerously attended, and much discussion naturally occurred, as to the measures proper to be adopted at such a crisis. Being the only person present who had ever seen cholera, or was practically acquainted with the observance of quarantine, I stated it as my opinion, that we could not enjoy any security against the importation of that disease, unless all vessels from the infected ports in the Baltic were obliged to anchor in the roadstead off the River Wear, and there remain, until visited by the health-officer of the port ; and, to insure the performance of this indispensable and highly essential measure of precaution, it would be necessary to have a vessel of war stationed off the coast. In accordance with this recommendation, and the authority of the Board of Health, the late lamented chief magistrate, Mr Robinson, president of that board, forwarded an application to the proper authorities, for a vessel of war being ordered to Sunderland ; and to which it was stated a favourable answer had been received.

A numerously attended meeting of the medical practitioners took place on the same day, at which I was present, and, in answer to many questions as to the contagious nature of cholera,

I distinctly and unequivocally expressed my conviction of its infectious and contagious character ; and, in support of this opinion, I read to the meeting some observations, and cases of the disease occurring immediately after intercourse with the infected, which were drawn up at the Mauritius in June 1820 and April 1829, and forwarded to the Army Medical Board ; and certainly not written to establish any particular theory, or to obtrude myself on public notice at a period of great excitement.

At this meeting it was considered expedient to inform the public of the institution of a Board of Health, and the object of its formation, of which the following is an extract from the printed papers extensively circulated :—

“ From the alarming advance of epidemic cholera towards the western part of Europe, fears have been entertained of its importation into this country. The circumstance of vessels trading between this port and those of the Baltic, where the disease prevails, renders it necessary that every possible endeavour be used to prevent the introduction of so destructive an epidemic amongst us. Should such precautions unfortunately be unavailing, it will then be necessary to have recourse to those means of mitigating the disease, and preventing its further dissemination, which have been found most successful in other places.”

“ *Sunderland, June 18, 1831* ”

It is of importance to remark, that these intended precautionary measures originated with the inhabitants of Sunderland, from a conviction of the danger to which they were exposed by their commercial intercourse, and previously to the adoption of quarantine regulations by His Majesty's Government, or the formation of the Board of Health in London.

On the 20th of June, His Majesty was pleased to issue a proclamation* which merits particular attention, in consequence of the clear and explicit orders given respecting ships arriving from the Baltic ; and the legal as well as the moral obligation it imposed on all classes of society, but especially on medical practitioners, to report immediately to the proper authorities any case of disease attended with new and uncommon symptoms, such as to afford grounds for apprehension that such disease is

* Appendix, No. I.

the same as that called "cholera morbus." His Majesty, in a speech to Parliament on the following day, was pleased to express his concern at the appearance of cholera in the ports of the Baltic, and, "that he had directed all the precautions should be taken, which experience has recommended as most effectual, for guarding against the introduction of so dangerous a malady into this country."

As it is foreign to my present narrative, I shall not offer any observations on the quarantine established at any of the other ports in the kingdom. I have to state, that, from the first meeting of the inhabitants of Sunderland in June, and the formation of a Board of Health in that town, no efficient measures of precaution were adopted, and the intercourse of vessels from foreign ports with the River Wear, was apparently as unrestricted as at any former period of perfect security,—a circumstance which excited much surprise on my part, and was frequently the subject of animadversion, when referring to the well-defined regulations issued by his Majesty's Government.

From the local situation of Sunderland, no port in the united kingdom offers greater facilities for the due maintenance of quarantine, if the authorities intrusted with that important duty were furnished with specific and well-defined instructions, and possessed the means of enforcing them. I have already stated, that, to prevent vessels from foreign ports entering the river Wear until visited, and reported on by the revenue officers, or health-officer of the port, it was necessary that a ship of war should have been stationed off the coast.

If the exigencies of the service would not admit of a brig of war being allotted for this duty, or the state of the weather, such as not to permit her remaining in the roadstead, its absence might have been well supplied in the occupation of the military battery which commands the entrance to the river, by a few artillerymen and a piece of ordnance, to enforce the necessary precaution of ships anchoring in the roadstead, until officially reported to the principal officer of customs.

It is to be regretted, that, at a period when the Government considered it necessary to impose restrictions on the entrance of ships from the Baltic to British ports, more attention should not

have been paid to the enforcement of those restrictions at the nearest port to that sea, and with which there existed such frequent commercial intercourse; the consequences were, that the much dreaded pestilence appeared at the place where it was most likely to occur. If the superintendant general of quarantine, or any person of experience in that department, had visited Sunderland, it is natural to suppose that he would have recommended the adoption of measures, in the hope of averting the threatened calamity; unfortunately, that functionary, nor any person under him, did so; and, in my opinion, the sanitary restrictions which experience and prudence would have sanctioned at this crisis, could not have been imposed by revenue officers in a provincial town, and of no practical experience in the rigid quarantine which the character of the pestilence imperatively demanded.

In support of the opinion I have given respecting the inefficiency, if not inutility, of the precautionary measures adopted with respect to vessels arriving at Sunderland, I have to state, that the watch-house from whence vessels are challenged as to where from, and the state of health on board, &c. &c. is situated at the termination of the old quay, from whence the splendid pier extends nearly half a mile further to the sea. This watch-house is, in consequence, at present surrounded by shipping, and what was once the extreme point, is now the scene of extensive trade.* It will therefore be apparent, how improper it was to

* The best illustration of the folly and insecurity of such a system was publicly manifested on the 8th of March 1832. Two colliers belonging to that port arrived from London: one was named the *Jolin and Jane*, the name of the other I do not now recollect. The usual questions as to the name of the vessel and state of health on board, &c. &c. were put by the man stationed at the watch-house, to which satisfactory answers were returned. However, it was soon ascertained, that, on board of the former vessel, there was a man ill of cholera, and the body of another, who had died two days before of that disease; both were landed at Monk-Wearmouth, and the man expired soon after. On board of the other brig a man lay ill of cholera, and was landed at the same place, where I was informed he died. Both vessels were sent up the river to the quarantine station, where they remained until the 15th of that month, and were then released. If any facts were wanting to establish the danger to which the people of this island and the neighbouring countries were unconsciously exposed to from an unrestricted commercial intercourse, these alone would have been sufficient. Yet, at the period at which these vessels sailed from the Thames, the existence of Asiatic cholera in London, and of which hundreds died,

confide the public safety to such a course of proceeding, and, in proof of which, I refer to the circumstance of vessels having been permitted to pass up the river, and then sent to perform quarantine, as it were in the country, as well as ships having been ordered out again for the period required for purification.

I am well aware of the officers of customs having frequently gone out of the river to warn vessels off to a quarantine station, in case of their being from suspected ports; yet the necessity of this measure could not often be ascertained at a port of such extensive trade as Sunderland; and the state of the weather off that coast would frequently not admit of a boat putting to sea.

After a long residence in the tropics, we are, perhaps, less sensible of the heat of summer in England than those who permanently reside there. Yet, I confess, that, on my return home in the summer of 1830, the temperature of that season appeared higher than that of the following year; and to those who are in the habit of recording meteorological observations I must refer, in confirmation of this opinion.

As the indigenous cholera of this country is well known to be of frequent occurrence in the summer and autumnal months, when an unusually high atmospheric temperature exists,—from irregularity in diet, or an excessive indulgence in the use of fruit at that season,—yet it would, in my opinion, argue a degree of fatuity to attribute the cases of cholera reported at Sunderland in August 1831 to such a cause. Early in that month, some severe cases of cholera were reported to have occurred in the vicinity of that town, two of which proved fatal after an illness of twelve hours. This unusually rapid termination of cholera excited my surprise, and induced me to doubt the correctness of the opinion formed by the medical practitioners in attendance, as to the real character of the disease, which was confirmed in a short period after by the report of other severe and fatal cases

was denied by many individuals of respectability in the medical profession; and the possibility of its being conveyed from one place to another discredited by a numerous class of society. However, the delusion of this dangerous, and, I fear, too frequently interested doctrine, has long since been painfully refuted by many melancholy and well-authenticated facts connected with the appearance of this pestilence in these islands, in France, and subsequently in the cities on the banks of the river St Lawrence.

of that disease in Sunderland. The first cases which were made known occurred in the practice of Mr Dixon, surgeon, who published an account of them in the Medical Gazette, 4th February 1832, of which the following is an extract :—" Allison, about fifty years of age, the subject of this disease, a painter of earthenware, residing in a low situation on the banks of the river, about two miles above the town, was attacked on the 5th of August last, about four o'clock in the morning, with vomiting and purging in considerable quantities, of a white, watery, turbid fluid, resembling oat-meal and water ; followed by coldness of the extremities, cold, clammy sweat over the whole body, an anxious livid countenance, eyes sunk in their orbits, and surrounded by a dark halo ; blue lips, a cold, moist tongue, cold breath, voice weak and husky ; pulse almost entirely imperceptible at the wrist, and very feeble over the region of the heart ; excessive thirst, a sensation of heat and anxiety at the præcordia, violent spasms of the feet, legs, arms and hands, with blue or purple colour, and shrivelled appearance of the fingers and toes. There was pain on pressure over the regions of the stomach and liver. The above symptoms were succeeded by a state of reaction, and consecutive fever of a typhoid type. There had not been any secretion of urine for three days. This man eventually recovered."

" The other, a healthy temperate man of the name of Arnott, a labourer at country or farm work, living on the opposite side of the river to the former, was attacked at two in the morning of the 8th of August, with *all the symptoms of malignant cholera*, since observed in the subsequent general prevalence of this formidable disease. He died in twelve hours from the commencement. On particular inquiry, I found that neither of these individuals had had any connection or intercourse whatever with either seamen or shipping."

Dr Ogden of Sunderland, in an article in the Medical Gazette, (21st January,) states, that he and Dr Brown saw the body of Arnott the day after his death, and which was strongly marked with all the characteristic appearances of malignant cholera. On the day on which Arnott died, a female residing at the village of West Bolden, situated on the high road to Newcastle, and four miles distant from Sunderland, was affected with malig-

nant cholera in an aggravated form, and which proved fatal in twelve hours. She was attended by medical practitioners from Sunderland.

The occurrence of this case, with that of the last two on the river side, on which there is an incessant intercourse between the collieries and the ships in the river, fully correspond with the history of the dissemination of this pestilence in all the countries which it has visited.

Among the few cases of this disease which came to my knowledge at this period, I have particularly to mention that of John Lane, who was employed as a labourer on the quay and shipping. He was seized with cholera in its most intense form on the 12th of August. Three weeks after his recovery, I met him accidentally near the military hospital, when he related to me the misery he had suffered, and that he had been attended by Mr Embleton, the parish surgeon. Some time after, I inquired of that gentleman the characteristic symptoms of Lane's disease, who informed me, that, in the whole course of his practice in the treatment of cholera after its eruption in October, he had not met with a case apparently more hopeless.

At this time it is natural to suppose that my utmost attention was directed to the occurrence of a disease amongst the troops, the ravages of which were painfully impressed on my recollection. Therefore, on the admission of a soldier into the military hospital on the 18th of August with cholera, I felt much anxiety in consequence of some suspicious symptoms present in his case, yet not sufficient to authorize me to create alarm by reporting it as a mild case of spasmodic cholera. However, I adopted the precaution of secluding him from the other patients in hospital. Towards evening the man was better, and convalescence favourable. On the 21st, another soldier was admitted into hospital, but with symptoms less urgent than the former. Recovery reported on the second day.

In alluding to these cases, I feel it important to remark, that no error is more apparent than that of supposing cholera, in which the symptoms are mild, is not to be regarded with serious apprehension where the disease prevails in a malignant form.

Pathology and experience will sanction this opinion, in which I am borne out by a reference to other diseases, such as typhus

and scarlet fevers, small-pox, measles, &c. &c. ; and, in support of this conclusion, I have to refer to the case of Robert Henry, a pilot, who died of Asiatic cholera on the 14th of August, within a few yards of the Barracks, and with the occurrence of which I was unacquainted until the last day of that month.

On the receipt of the Report of the Board of Health in London on the epidemic cholera of Russia, a meeting of the medical practitioners of Sunderland was convened on the 30th of August, but at which few attended. The report was read to the meeting by Dr Hazlewood, who then stated, that on the previous Saturday, the 27th, he was called upon to see a dispensary patient affected with cholera, and in whom all the symptoms alluded to in that paper were present ; and that he died on the following morning. The victim in this instance was named Pearson, a ship-wright, and middle-aged. In a report from Dr Ogden of Sunderland, inserted in the London Medical Gazette, January 21, 1832, he states of Dr Hazlewood having assured him, “ that every symptom of Indian cholera was present in this case.” This admission of Dr Hazlewood is important, from its having been made at a time when he had had extensive experience in the symptoms of this disease.

Dr Miller likewise stated to the meeting his having been called on by Mr Cook, surgeon, at eleven o'clock A. M. on the 13th of August, to visit a man who was ill with cholera, and who died on the following day. He mentioned, that the symptoms in this patient were very severe, and similar to those reported to occur in the Russian epidemic. On inquiry, I was informed by Dr Miller, that the subject of this fatal case was a pilot. I therefore felt anxious to ascertain if he had been on board of any ship from the Baltic, and which, with much exertion and considerable trouble, I fully established. Robert Henry was up at Flamborough Head, and on his way down went on board some foreign vessel said to have performed quarantine, and piloted her into the River Wear, early in the first week of August. After having taken in cargo, she sailed from that port on Friday the 12th of that month, and was piloted out by the same individual.

The deceased Henry lived in a cottage close to the Barracks, and, on inquiry of his widow, she informed me that her late hus-

band was perfectly well on going to bed on the night of the 12th of August, and equally so on the following morning until five o'clock, when, in the act of putting on his clothes, he was affected with severe pain in the region of the stomach followed by vomiting, which soon ceased on the accession of purging, evacuation from the bowels resembling yeast. These symptoms subsided on being seized with cramps, which were distressingly severe. At nine o'clock, the nails of the fingers and toes were blue; and before eleven A. M. the surface of the body was cold, of a livid or dun colour. At noon he became comatose, and continued in that state until the following morning (14th), when death closed the scene. The history of this man's case is of importance, as connected with his employment previous to his illness; and, on perusal of the detail of symptoms, few can doubt as to the character of his disease. However, the opinion of Surgeon Cook is conclusive. He informed me some months after its occurrence, and at a time when he had ample experience in the symptoms of this disease, that it was cholera of the most appalling type.

George Hopper, a pilot, who was at sea with the deceased Henry when he boarded the foreign ship, went to see him the morning on which he died. At two o'clock that day, he was severely affected with cholera, but recovered. This man's illness I ascertained in the course of my inquiries respecting Henry; but, from my being a stranger at Sunderland, it is impossible for me to state to what extent the disease might have prevailed at that period. Yet, from the character of the diseases referred to as having occurred in the vicinity, and more open parts of Sunderland, it is natural to conclude, that the cases and deaths were numerous, although none were reported from the lower part of that town bordering on the river; or from the extensive suburb of Monkwearmouth, containing a population of many thousands, the majority of whom are engaged about the shipping.

On the 2d and 3d of September I addressed letters to Sir James M'Grigor, reporting the deaths of Pearson and Robert Henry, in which I detailed the symptoms of Henry's case, as well as the illness of Hopper. In these communications, I minutely detailed all the facts connected with Henry and two other

men, named Jones and Joseph Henry, having piloted a foreign ship into the Wear early in August, and from thence, the evening previous to Henry's illness. These letters were immediately laid before the Board of Health in London, and on the 7th, I received letters from Sir J. M'Grigor and Dr Seymour, secretary to the Board, requiring further information. In my letter 8th September, in answer to Sir J. M'Grigor, I recapitulated the evidence I had previously received relative to these men having been at Flamborough Head, and piloting a foreign ship into Sunderland river.

In that communication I stated, that "I had been long impressed with the helpless state of the official authorities to enforce any measure of quarantine, in consequence of no vessel of war being stationed here; and, in illustration of my opinion, I beg to mention, that, a few weeks since, a foreign vessel arrived here, and immediately came up the river. However, I was informed that she was ordered away to some quarantine station, as soon as the authorities were informed of the circumstances of the place from whence she sailed.

"Yet, although no positive evil may have occurred from the arrival of this vessel, or any other in a river full of ships, with a dense population along the quays, we cannot be considered to enjoy the advantage of a well ordered quarantine; and which, in my humble opinion, never can be effected, unless by a vessel of war stationed off the coast." I likewise alluded to the danger likely to ensue from the unrestricted permission of the landing of hammocks, clothes, and foul linen (for the purpose of being washed,) from the ships which had arrived from ports then infected with cholera, and the great probability of such articles having been on board sickly vessels.

The appearance of malignant cholera in the town and vicinity of Sunderland early in August will, in my mind, be satisfactorily explained by the circumstance of *two foreign ships from infected ports having been in the Wear at that time, or shortly previous to the occurrence of the disease*. I confine my allusion to these vessels, from having established the fact; and fear, that, from the causes so frequently mentioned, that the entrance of ships under similar objections was of more fre-

quent occurrence than could be ascertained by a person not officially connected with that port.

Dr Seymour's letter related to particulars connected with the illness and deaths of Henry and Pearson, which it was impossible for me to answer, in consequence of my not having seen these patients; I therefore gave the letter to Dr Clanny, chairman of the Local Board, requesting of him to obtain the information required by the Board of Health in London. A meeting of the members of the medical profession was held at the Infirmary, when "it was resolved, to decline any interference on their part."

Mr Dixon, the person under whose charge the first cases of malignant cholera to which publicity has been given, was secretary to the local Board, and from him I received their determination, which I reported to Dr Seymour.

On the 9th of September, Sir Cuthbert Sharpe, collector of customs, addressed a letter to me, stating, that he had received a communication from Dr Seymour, requesting to be informed of all the circumstances connected with the case of Robert Henry, which I had reported to the Board of Health in London, and entreated of me to afford him the information required. I immediately wrote to Sir C. Sharp, and stated, that Henry piloted a foreign vessel into Sunderland river, and in some days after acted in a similar capacity on board the same ship on her departure; also, that William Jones, and Joseph Henry, nephew to the deceased, were on board that ship on her arrival; and that G. Hopper, a pilot, informed me of his having attempted to board this foreign ship which Jones and the Henrys piloted, but that he was too late. I cannot refrain from remarking on the circumstance of the London Board of Health attaching so much importance to this ship piloted by Henry, and which was said to have performed quarantine; and at the same time not having directed their serious attention to that of a foreign vessel from an infected port having been in the river Wear, the last week of July or early in August, and sent out to perform quarantine; or, that no attention was directed to the want of means pointed out by me, of enforcing the salutary restrictions it deemed necessary.

From that period all inquiry on my part ceased, and I con-

cluded, that the officers of customs would have reported the information required; however, to my surprise and deep regret, Sir C. Sharp casually informed me on the 5th of October following, that the officers (tide-waiters) deputed by him to inquire into all the facts connected with the vessel piloted by Henry, had reported to him, that William Jones and Joseph Henry denied having been on board any such ship, and made a similar assertion with regard to the deceased Henry. On the following day, I addressed a letter to Sir C. Sharp, informing him that I felt myself imperatively called on to write to Sir J. M'Grigor in explanation of the correctness of my reports of the 2d, 3d, and 8th of September, and that I should request of him to obtain an order from the proper authorities, for an examination by the magistrates of the individuals alluded to in my letters. Accordingly, on the 8th of October, I addressed a letter to Sir J. M'Grigor, in which I enclosed a copy of my letter to Sir C. Sharp, and stated most fully all the circumstances I have already referred to, and requested him to obtain an order to the magistrates at Sunderland, to examine on oath the persons named by me, and to report the result to the Board of Health in London. This request was not complied with; and, on a subject of such deep interest to the public, it was impossible for me to account for the decision of the Board of Health in refusing it, and with which I was obliged to rest satisfied; yet, I could not then anticipate, that exertions which were foreign to my duty and situation in life, would have exposed me to the libel inserted in the *Courier* newspaper, after cholera reappeared at Sunderland in October, of which the following is a copy:—

“That the absurdity of considering the cases of cholera which have just occurred at Sunderland, as the first which have made their appearance there this year, will appear from the following facts:—‘On the 14th of August last, Robert Henry died there of cholera after a short illness. Mr Kell, surgeon of the 82d Regiment, who had seen the cholera at the Mauritius, was at Sunderland when the case of Henry occurred, and he recognized the identity of the symptoms with those of the spasmodic cholera of India. The case of Henry, or those which have just occurred at Sunderland or Newcastle, have nowise differed from

those cases which have occurred at various points in England this year.'

"It is to be noted, that the case of Henry was duly reported to the Secretary for the Home Department, as well as the Board of Health, and an investigation was directed to take place at Sunderland, it having been rumoured that the disease had been then imported. Sir Cuthbert Sharp, collector of customs, accordingly informed Lord Melbourne, that the report as to the man in question having piloted a foreign vessel into the River Wear on the 14th of August, *was not founded on fact.*"—
(November 5, 1831.)

Sir C. Sharp explicitly and repeatedly assured me, that he had no knowledge whatever of the publication of the foregoing paragraph; and, on the 12th of November, I published a letter in the Courier, in which I mentioned the circumstance of Henry, with two other men, having piloted a foreign ship into the Wear, early in the first week of August; and his having acted in a similar capacity on board the same vessel on her leaving port on the 12th of that month. Henry was affected with cholera on the following morning, and died at noon on the 14th,—the day alluded to in the above statement.

In the month of September and early part of October, Sunderland and its neighbourhood were stated by the medical gentlemen with whom I was acquainted to be remarkably healthy; and, as far as my recollection goes, there was no meeting of the medical department of the Board of Health, since that stated to have occurred in August.

From the reported cessation of cholera, which prevailed to a late period in August, it might be concluded that it was not of foreign origin; yet, on a reference to the history of the disease, its capricious course and uncertain duration in peculiar localities form the most singular phenomena, when compared with other epidemics.

The many well authenticated accounts of the partial visitation, and sudden cessation of this disease in the cities of the east, are familiar to most people; and in its progress over the European continent to the shores of the Baltic, the same irregularity has been observed. However, since its second appearance in Sunderland, and subsequent extension over the British

islands, numerous instances can be referred to, where the cholera appeared for some time, and but few people became the victims of it; in other cases, where the disease raged with violence for a few days, destroying many, and then disappearing.

On the report of cholera having appeared at Hamburgh on the 8th October, the uneasiness which had pervaded the public mind in the early part of summer, was again aroused in regard to the probable introduction of the pestilence from that commercial port, between which and England there existed such frequent intercourse.

In accordance with that feeling, a meeting of the Board of Health was held at Sunderland in the second week of October, which I was requested to attend. At this meeting Mr Robinson, Sir C. Sharp, and Mr Wilkinson, magistrates, with other influential persons, attended; and the principal subject of discussion referred to the danger likely to arise from the clandestine intercourse of smugglers, and pilots with ships at sea, and, if possible, to adopt means of preventing it; however, little could be done, as there existed no naval force to prevent the egress or ingress of this class of people at pleasure from the Wear, and the only decision formed was the feeble one, of having the pilots of that port admonished to refrain from intercourse with vessels coming from infected places, under the penalty of being reported to the Trinity-House at Newcastle.

In support of the well founded apprehension of the danger likely to ensue from pilots or others visiting ships off the coast, I stated the circumstance of the fishing Blacks of Mons Karsnae, residing at the Rivière de Rampart, in the Mauritius, having had intercourse with the Topaze frigate, when off the coast of that island, and on their return home being affected with cholera; the disease soon spread over the plantation, destroying many, and amongst the number the proprietor. And for the detail of this occurrence, I beg to refer to the Journal of Science for July 1831. At this meeting, the unaccountable practice of ships being permitted to enter the River Wear, and then sent to perform quarantine in the country, was alluded to. I particularly remarked on the extreme danger likely to follow from a foreign vessel having been only a few days before in the river laden with rags, and rope-yarn; and ordered out to a

quarantine station. In answer to my observation, I was told that the necessary precautions had been adopted; yet, I was at a loss to know what measures could have been taken after a ship was at anchor, and an intercourse established, where no force existed to prevent it. This vessel proved to be the "Christiana of Bremen," and the weather being stormy, she returned to her own port.

On the 17th October, I met Mr Ward, a surgeon in extensive practice, who informed me, that he had been called that morning to see two cases of cholera, at which I expressed my regret, as that was not the season to witness indigenous cholera. On the morning of the 20th, the same gentleman mentioned to me his having on the previous evening been requested to see a person ill of cholera, in whom the symptoms were alarming, and particularly extreme collapse. I requested to see this patient, and Mr Ward accompanied me accordingly; the subject of this disease was named Dodds, seventeen years of age; who stated to me, that he was in perfect health up to the moment of his becoming ill on the previous evening; and from his statement, as well as that of his medical attendant, his sufferings must have been most acute. Towards morning the alarming symptoms had subsided, and previously to my seeing him reaction had occurred.

On minute inquiry of this patient, I found that he worked in a ship-wright's yard on the border of the river, near which lay several vessels under quarantine. The locality of the situation where this disease occurred awakened feelings of apprehension on my part, and, to satisfy myself on the correctness of the information, I went that day to visit the place (Deptford) and found his statement perfectly correct. At that time there were three or four ships in the river, with the yellow flag; the tide was out, the water shallow, and from the want of a marine police or military guard, I could not discover how the intended seclusion could be carried into effect.

From the misrepresentations made in respect to ships at this time in quarantine, I think it necessary to remark, that there were also two small brigs at this station, which were mentioned to me as having lately arrived from Holland, and which had

been released from quarantine on the previous day ; but I could not ascertain from what port the former vessels had sailed.

The simultaneous appearance of cholera, with the arrival of the ships I have referred to, was calculated to excite the vigilance of the medical profession and local authorities, if reported to them ; yet no notice was taken of the occurrence, and I was again fated to be the medium of reporting the existence of this pestilence on the English shores ; and, from the following case, is dated the origin of cholera morbus in this country. On Sunday, October 23d, at two o'clock P. M., I was requested by the wife of William Sproat Senior, to see her husband, who was dying of cholera morbus. On inquiry, I found that a medical man was in attendance, and therefore declined going ; however, the woman's importunities could not be overcome ; and I consented to go immediately, if Drs Clanny or Browne would accompany me to see the patient. In a short time after, I was informed that Dr Clanny would meet me at three o'clock ; we met accordingly ; and on my seeing the patient, and after examining most minutely into the history of his disease, and from the symptoms present at that moment, I explicitly and unreservedly declared to Dr Clanny, my conviction that this was a case of *Asiatic Cholera*, to which opinion Dr Clanny gave his assent ; and, in confirmation of this statement, I beg to insert the following extract from his work on Cholera :

“ I was called on Sunday the 23d of October, to visit William Sproat, a keelman, living near the Long Bank,* in the parish of Sunderland ; and met there, by appointment, J. B. Kell, Esq. surgeon of the 82d Regiment, at present in our barracks. This gentleman has seen much of epidemic cholera in the Isle of France, and to him I am greatly indebted for much useful practical information upon the diagnostic symptoms of this *new disease*.” Mr Holmes, surgeon in attendance, was not present when Dr Clanny and I visited this patient. Dr Clanny and Mr Holmes continued to attend until the morning of his death, on the 26th of October.—See case in Appendix.

* Sproat occupied a large, clean, and well-ventilated room, on the first floor of a house, on the most open part of the quay, near which many ships were at anchor. Dr Daun visited this room with me the day he arrived at Sunderland.

In an hour after the death of Sproat, his grand-daughter, eleven years old, when walking about the room where the corpse lay, was suddenly affected with extreme debility, instantly followed by severe pain of the stomach, and copious vomiting and purging of watery fluids. She was visited immediately by Mr Holmes, who prescribed an anodyne mixture, and heat to the surface of the body, with relief to the most distressing symptoms. On my seeing her the following morning she was better, and the case promised to terminate favourably. William Sproat, the father of the girl, a fine athletic young man, who constantly attended on his deceased parent, was severely affected with cholera on the morning of the 27th of October. I requested Dr Clanny to visit these patients, and, if possible, to have them admitted into the Infirmary, with a view to their recovery, as well as to the public safety. Dr Clanny most readily complied with my wishes, and they were received into that institution the same evening. My next object was to inform the Government and Board of Health in London of the circumstance. On inquiry, I found that Mr Robinson, the chief magistrate, was not in town; and having met the Rev. R. Grant, resident clergyman of Bishop-Wearmouth, at the library, I most fully detailed to him all the circumstances connected with the death of Sproat, and the illness of his son and grand-daughter. I then requested Mr Grant to wait on Mr Robinson, and entreat of him to report to Lord Melbourne, *on my assurance and responsibility, the existence of Asiatic Cholera in Sunderland*; Mr Grant immediately complied with my request, to which Mr Robinson most promptly acceded; and on that evening the official report was forwarded by that highly respectable and now much lamented individual.

At the same time I addressed a letter to Sir J. M'Grigor, (member of the Board of Health,) in which I stated most fully my opinion of the character of the disease which prevailed in this family, and my conviction of its not having arisen from any local cause. I likewise observed that it was to be lamented that, to the accidental circumstance of my having been requested to see the elder Sproat, was owing the discovery of the prevalence of Asiatic Cholera in that town, and my well founded belief that this was not at this time the first fatal case of that disease.

This conclusion was confirmed in the latter part of December by the report of the following death :

The subject of this case was a young girl living with her parents, who keep a respectable public-house within a few yards of the quay, much frequented by sea-faring people, and near the residence of Sproat. Mr Cook, her medical attendant, was so good as to detail to me the leading symptoms of her disease, which merits particular attention from the locality of its occurrence, and its having taken place on the same night as those cases of cholera referred to by Mr Ward. “ Isabella Hazard, eleven years old, was perfectly well on Sunday the 16th of October, was twice at church on that day, and on going to bed was in good health ; at midnight she was affected with excessive vomiting and purging of a watery fluid, attended with extreme debility, and spasms of the lower extremities. At five o'clock in the morning Mr Cook visited her ; at that time her eyes were sunk in their orbits ; features shrunk and altered in appearance ; the skin of a death-like coldness, and remarkably blue ; pulse imperceptible ; tongue cold, but moist ; excessive thirst ; urine totally suppressed. She died at four o'clock, P. M. on that day.”—*Extract from Clanny on Cholera, drawn up by Mr Cook.*

On the morning after the admission of Sproat and his daughter into the Infirmary, a meeting of the medical practitioners was held at that institution to see these patients, and report their opinion as to the character of their disease, and at which I was requested to attend. The medical gentlemen present, as well as myself, after having minutely examined into all the symptoms then present, and a detail of their past sufferings, we returned to the Board-room, where much discussion arose as to the nature of the disease.

The highly respectable practitioners present, * stated their belief that it was the common cholera of this country, attended with aggravated symptoms, and that many cases of the disease

* Drs Clanny (chairman), Brown, Atkinson, Miller, Burn, Ogden and Hazlewood. Surgeons, Mordey, Dixon, Penman, Holmes, and Fothergill, health-officer of the port. This gentleman I met on my way to the Infirmary, and impressed on him the necessity from the official situation he held, of his seeing the cases of cholera in that institution ; and he accompanied me accordingly.

equally severe, and some of which proved fatal, had occurred in the month of August, and to which I have already referred in the former part of this work.

I then explicitly stated it as my opinion and firm conviction, that the disease under which Sproat and his daughter laboured was Asiatic Cholera, and which I considered contagious.

I also mentioned my having on the previous day reported to Government and to the Board of Health in London to the same effect; this intimation caused much surprise, and partial dissatisfaction. However, I fully explained my views to the meeting, and rested satisfied with the propriety of my proceedings.

It is perhaps unnecessary for me to state, that none of the medical gentlemen present assented to my opinion except the chairman. "It was, however, resolved to report to the Board of Health in London, the cases of cholera then in the house, as well as those severe and fatal cases of that disease which had heretofore occurred on that day fortnight." The death of Sproat, and the rapid spread of the disease precluded the necessity of forwarding them.

On the 29th of October, I addressed a letter to Sir J. M'Gri-gor, which he submitted to the Board of Health. In that communication I detailed the symptoms of Sproat's case and that of his daughter on the previous day, and stated my conviction that the young man must have perished the night of his admission into the infirmary, had it not been for the attention bestowed on him, and I beg to refer to his case as officially drawn up, and inserted in the Appendix. I likewise mentioned, that "I feel no hesitation whatever, in stating Sproat's disease, as well as that of his late father and daughter, to be Asiatic cholera." In conclusion, I stated, that "much difference of opinion exists between the medical gentlemen and myself as to this disease being Asiatic cholera. Painful recollection and no inconsiderable experience have impressed me with a different opinion, and I must be allowed the merit of not being influenced by any motive whatever in the decision I have given."

In consequence of my not having been invited to revisit the Infirmary, I did not see Sproat after the day on which the meeting was held, yet, I was gratified to learn, in answer to my in-

quiries, that he was doing well ; however, on the 31st, unfavourable symptoms recurred, and he died that evening.

In a short time after Sproat's death, the hospital nurse, Eliza Turnbull, was called in to assist in removing the body to the dead-house. At an early hour on the following morning she was affected with cholera, and died at two o'clock on that day, November 1st.* This appalling and well marked case of the disease, occurring at a public institution, and from such an evident source of infection, naturally caused general panic through all classes in town, and thereby publicity was given to the prevalence of a pestilence, the existence of which could no longer be suppressed.

A numerous meeting of the medical practitioners was held at the Exchange that day, when two more fatal cases of cholera were reported to have occurred on the previous day, and each after an illness of twelve hours. Dr Clanny, chairman, stated to the meeting, that six cases of cholera had occurred in Sunderland since the 23d of October, five of which had proved fatal. It was therefore for the gentlemen present to decide, whether the deaths just reported were caused by spasmodic cholera, when it was unanimously declared in the affirmative.

A numerously attended meeting of the Board of Health and inhabitants was immediately held, when the chairman reported to the president of the board, *the unanimous opinion of the medical gentlemen " that spasmodic cholera prevailed at Sunderland."* On that night the official notification of this unfortunate occurrence was forwarded to Government and the Board of Health in London ; and at the same time I wrote to Sir J. M'Grigor to the same effect. At this meeting, my having previously written to the authorities in London on the prevalence of Asiatic cholera in that town, was animadverted on, but which I fully explained, and apparently to the perfect satisfaction of all present.

I have now accurately, and, I should hope, in the opinion of

* The most erroneous statements were made in the public papers and periodicals respecting the death of this woman, which was attributed to her fear of the disease ; and that the nurse who constantly attended on the deceased escaped from her being free from such a feeling ; yet candour and truth will assign it to a different cause when I state, that she was the wife of Sproat, and the mother of the girl. This family consisted of five individuals, three of whom had the disease, and two of that number died.

all concerned, faithfully detailed all the circumstances connected with the appearance of this disease in Sunderland, the probable introduction of which had caused such painful apprehension in the public mind ; and I lament that my situation precluded me from obtaining more ample information as to the first cases of it which occurred.

On an event of such importance to the safety and happiness of the population of the empire, it is to be regretted that the origin and early progress of this pestilence should have been involved in such obscurity, and that the local authorities at Sunderland did not act in conformity to their declaration of June.

From the 1st of November to the 3d, only one case of cholera was reported, and that in the person of Mrs Wilson, aged 22, living in comfortable lodgings in Silver Street. This woman's illness took place two days after the death of her father-in-law * from cholera, and on whom she attended, and was of importance, as affording another instance of the contagious nature of this disease. On the 4th, I was requested to see her, and although she was then extremely ill, yet none of the more frightful symptoms attendant on her father-in-law's case were present in her. On the following morning I again visited her ; she was then somewhat better than on the previous day,—slight reaction having supervened, and other symptoms somewhat favourable. She died on the 8th.

On the 5th of November, Dr Daun, surgeon, on half-pay 89th Regiment,† arrived in Sunderland ; having been sent down by the Board of Health immediately after the receipt of the official reports from that town. This gentleman had served long in India, and during that period had had extensive experience in the treatment of cholera as it occurred in that country.

Immediately after Dr Daun's arrival at Sunderland, I accompanied him and Dr Clanny to see Mrs Wilson, and found her, as I have already mentioned, and was happy to learn on the following morning, that my report of this case to London fully corresponded with Dr Daun's. On the evening of the 5th, it

* See Wilson's case in Appendix.

† Dr Daun was promoted in January following to be Deputy-Inspector-General of Hospitals.

was stated that Mrs Wilson's was the only case of cholera in the town, yet, on the following morning, two deaths from that disease were reported to have occurred during the night, and one of them in the person of an old lady of respectability. In the early part of the same day, a young lady, the wife of a physician who had attended on cholera patients at the infirmary, was severely affected with this disease, and for whom Dr Daun was called to prescribe. About the same time, a surgeon who assisted at the *post mortem* examination of Rodenbury, who died of cholera on the 31st, was also taken ill.

Late on that day, many cases of cholera were reported from Silver Street, where Mrs Wilson lay ill. This street is situated on the most elevated part of Sunderland, is wide and well-ventilated, terminating at one end in the High Street, and on the other near the extensive moor on the border of the sea, and, from the appearance of the houses, it would seem to have been once occupied by the better class of society.

On the 7th, the reports of cholera were unfavourable from various parts of the town. On that morning Dr Daun was at my lodgings, when called to see a patient, and I accompanied him. The subject of this case, Thomas Crawford, about 54 years old, stated that he had been well on going to bed, and at an early hour that morning was affected with violent sickness of stomach, and purging of watery fluids, with severe cramps affecting the extremities. On our seeing him, he was in a state of extreme collapse. Dr Hazlewood and Mr Mordey were in attendance, and had prescribed diluted brandy with an anodyne, and heat to the surface, with temporary relief. He gradually sank, but did not expire until the 9th.

I cannot avoid noticing, that Crawford was celebrated for his gallant conduct on board Lord Duncan's ship at the battle of Camperdown, which attracted the admiration of his sovereign, and his townsmen presented him with a silver medal in commemoration of the event.

Licut.-Colonel (now Sir Michael) Creagh, half-pay,* unattached, was despatched from London by the Lords of the Council, and arrived at Sunderland on the 6th of November. Imme-

* Sir Michael Creagh was soon after promoted to the command of a regiment, and honoured with the order of knighthood.

Immediately after his arrival, he and Dr Clanny called at my lodgings, where Dr Daun was at breakfast. At this meeting much discussion arose as to the measures which it might be necessary to adopt in case of the disease spreading; yet, from the alleged state of health in the town on the previous evening, it was deemed expedient to defer the restrictions on the commerce of the port which the Government had directed. However, from the unfavourable report of numerous cases of cholera during the latter part of that day, Colonel Creagh issued on the following morning the proclamation of the Lords of the Council,* and imposed a quarantine of fifteen days on all vessels leaving the Wear (commencing from the day of sailing) previous to their entering any of our domestic ports.

This very limited measure of precaution in regard to the public safety caused much dissatisfaction amongst the commercial part of the population, and which was increased in consequence of no sanitary restrictions having been imposed on the intercourse by land.

The official situation of Lieut.-Colonel Sir M. Creagh was of an unusual character, from the circumstance of his not having assumed any military command, or being a magistrate of the county; his authority, therefore, was much circumscribed, and, from the want of any municipal regulations in respect to the object of his mission, any exertions on his part were consequently extremely limited. However, he was a member of the Local Board of Health, and transmitted reports to the Lords of the Council at Whitehall. Dr Daun was likewise a member of the same Board, and forwarded his reports to the Board of Health in London. His duties were often irksome, from having to depend on the medical practitioners of the town for the information which the Government and the country so anxiously looked for, and which was too frequently inaccurate. On the 3th of October cases of cholera were numerous, and the disease had extended to parts of the town before free from its visitation, yet it was not until a late hour that evening that any reports as to the number ill or who had died could be obtained; and the numerical return transmitted to London, consequently, was erro-

* This proclamation merits particular attention, as being expressive of the intention of Government—See Appendix, No. 4.

neous. In confirmation of this opinion, I beg to refer to the statement of a young physician of respectability.

Dr Ogden of Sunderland states in one of his communications to the London Medical Gazette (January 21,) " That no deaths occurred between the 1st and 6th November ; on the latter day there were several, on the 7th more, and on the 8th the cases were numerous, and the existence of the epidemic amongst us could no longer be doubted."

Dr Gibson, assistant-surgeon half-pay 13th Light Dragoons, who had served in India, arrived at Sunderland to afford his assistance in case of the disease prevailing amongst the troops, but, in consequence of their continuing healthy, he was directed to assist Dr Daun in the performance of his duties.

On the 9th November, a numerously attended meeting of the magistrates, ship-owners, and principal inhabitants, was held at the Exchange, and at which the High Sheriff of the county presided.

The chief object of this meeting was to form a fund by voluntary subscription, for the relief of the poorer classes, and which, I believe, was liberally subscribed to. At this meeting, much and long-continued discussion arose, respecting the establishment of an hospital for the reception of cholera patients ; and it will perhaps appear incredible, that in an extensive and flourishing commercial town, no hospital was opened for the treatment of a disease which had caused such universal panic. The only difficulty which opposed such a necessary establishment was that of procuring a house ; the Government having authorized an issue of barrack stores for that purpose. Bedding and bedsteads were sent to the Infirmary from the barracks on the day of Colonel Creagh's arrival ; yet the ward in that institution allotted for the accommodation of those afflicted with cholera remained unoccupied, in consequence of the disease not prevailing in its immediate vicinity ; and from its distance to the part of the town then infected, it might have proved injurious to a patient being removed there, particularly at that season of the year, as no proper mode of conveyance had been provided. At this numerous assembly, Dr Clanny, chairman of the Board of Health, declared to the meeting, "*that the disease was increasing, and its malignity not abated.*" I wrote

that evening to Sir J. M'Grigor, stating my opinion as to the extent of the disease in Sunderland, and quoting the words of the chairman. I likewise regretted the difficulty which existed in procuring any accurate account as to the extent of the pestilence, or the mortality consequent on it; and concluded with stating, that, "I fear much, that the evil cannot easily be removed, until such time as laws are made to render it imperative on all medical practitioners, to report immediately the occurrence of any case of cholera, as well as death. The rigid observance of such a regulation, would not alone be highly beneficial to the afflicted, but to the public at large."

On the 10th of November, a meeting was held in the Magistrates' room at the Exchange, which comprised many of the principal inhabitants, and some members of the medical profession. Much discussion arose, and trivial arguments advanced, to discredit the correctness of the opinion which had been given as to the nature of the disease which prevailed.

Dr Daun was present, and to him I expressed my surprise at the evident intention exhibited of denying the accuracy of our former reports, and eliciting from him an opinion to that effect; on which he told them, "that they had a disease amongst them which had travelled from India to Sunderland."

It was with feelings of regret that I perceived at this meeting an unfriendly bearing towards me for the part I had taken, and which I mentioned to Dr Daun with an avowed resolution on my part, not to interfere in future, or attend any other meetings; in the propriety of which he fully concurred, as illiberal remarks had been made to him respecting my interference, and which was considered unnecessary and foreign to the situation in which I was placed.

This determination of seceding was truly fortunate, as it prevented my being present at the meeting held at the Exchange on the following day, and thereby avoiding the unpleasant consequences which might have resulted from the angry feeling manifested towards me in that tumultuous assembly.

On a subject of such moment as the introduction of a new disease into this country, and which has been followed by such disastrous consequences, I think it of importance to insert an

account of the proceedings connected with that event, as copied from the Sunderland newspaper :

Sunderland Herald, November 12, 1831. — “ As considerable excitement and alarm seem to pervade all parts of the kingdom respecting the ‘ destructive malady ’* said to have been introduced into this town through the inadvertence of the quarantine officers ordering ships on their arrival from Holland, to proceed up a river constantly crowded with vessels, to the Deptford station, situated about a mile and a-half from Sunderland bridge, and from the free intercourse of the seamen with the inhabitants of the neighbourhood, it has generated to a frightful extent, we are induced to detail the proceedings that have occurred here since our last publication.

“ That five persons expired, as stated in our last, is true; but there are doubts as to the cause of their deaths—Asiatic cholera—and had it not been for the too zealous communications of some alarmists to the London Courier newspaper, in this and a neighbouring town, it is more than probable that the inhabitants of Sunderland would have been represented as in the enjoyment of more than ordinary health.

“ Owing, as we have already stated, to the unnecessary alarm created, Government, with a zeal that deserves our highest commendation, instantly despatched Lieut.-Colonel Creagh, an experienced officer, and Dr Daun, a medical gentleman of high and deserved repute, to the spot, to ascertain the facts in all their bearings, allowing them full power to act as circumstances might require; as also, to prevent the spread of the fatal malady.

“ During the early part of the week, the visitors appointed by the Board of Health were zealously employed in every district of these towns, in ascertaining, by personal application, from door to door, the state of health of the inhabitants.

“ The town is divided into twelve districts, and four visitors are appointed to each, whose duty was to visit every lane in the parish, each morning; but, from the generally healthy state in which all parts were found, without exception, after completing their second inspection, it was determined that it should be

* A term of ridicule adopted by the Editor.

repeated twice in each week, instead of daily. This is merely a precautionary measure on the part of the parochial authorities.

“ We have been informed, on an authority for which we can vouch with the greatest confidence, that that part of the town where the ‘ destructive malady ’ is most prevalent is inhabited by persons steeped in poverty through dissipation and idleness ; and that in thirty dwellings which were visited in a confined space, only two blankets were found for the whole of its inhabitants ! Dissipation, the concomitant of starvation, is therefore the best auxiliary to the ‘ destructive malady ’ that has caused such universal alarm in all parts of the kingdom.

“ The gates of the barracks were closed on Monday, in order to prohibit the garrison from having any communication with the inhabitants.

“ On Wednesday, the fire-engines were employed in washing the narrow streets and lanes, with which the town abounds, of their accumulated impurities.

“ The visitors of the Board of Health have made a second inspection of their various districts, and we have unfeigned pleasure in adding, with general satisfaction, as they found that the poor had made strenuous efforts in cleansing and washing their humble dwellings, to avert the ‘ destructive malady.’

“ A committee has been appointed to procure subscriptions to provide food and necessaries for the poor inhabitants of this town, during the period of ‘ tribulation and trouble ; ’ and there was a meeting at the commission-room, in the Exchange, yesterday evening, for the purpose of carrying the benevolent measures into effect.

“ In our last, it was stated that five persons had fallen victims to the disease. On Sunday the parochial officers furnished two, and on Monday, five coffins. On Tuesday, nine cases were reported to the board, and seven deaths. On Wednesday, there were seven cases, and four deaths.

“ There was a very large, respectable, and numerous meeting of the inhabitants of this town, holden at the commission-room in the Exchange, yesterday,—George Robinson Esq., senior magistrate, in the chair ; the High Sheriff of the county being present ; when great dissatisfaction and disgust were expressed at the erroneous representation made to Government relative to the al-

leged importation of Indian cholera, and a resolution was passed, with only four dissentients, that the names of the medical gentlemen who agreed or acceded with the original report transmitted to the Board of Health in London should be given to the public, and that the names of the medical gentlemen who dissented from that report should be also given to the public. This, we understand, has not yet been complied with. *

“ Though it is said to be the opinion of the majority of the medical gentlemen of this town, that the disease prevailing here has arisen spontaneously, and was not introduced by foreign contagion, yet it is most singular that such opinion has not been openly declared, or that the Board of Health has not made it a point to endeavour to ascertain this fact. Should it be ascertained that this disease has arisen spontaneously, it is presumed that this will tend to sooth and calm the minds of all classes of the inhabitants ; that it will operate as an additional inducement to the lower classes to submit with alacrity to the regulations prescribed or imposed as to cleanliness, temperance, &c. ; and that it will diminish the inducement of certain individuals to leave the town, as they will naturally conclude that all the neighbouring places will be also liable to similar attacks from the same atmospheric influence.

“ It is said that some of our most enlightened medical practitioners doubt whether the disorder in question be really cholera morbus, or a sort of gastric fever, similar to that lately prevalent at Edinburgh.

“ At a public meeting of the ship-owners, merchants, and other inhabitants of Sunderland and the Wearmouths, most numerous attended, held at the Exchange Buildings yesterday afternoon,—

“ JOHN HUBBARD, Esq. in the Chair.

“ On the motion of John Spence, Esq. it was resolved, seconded by Mr Robert Spoor,—

* At the meeting on the 1st of November, when the prevailing disease was reported, by *unanimous consent*, to the Government and Board of Health in London as “ spasmodic cholera,” many of the most influential persons in Sunderland were present, and, with very few exceptions, all the medical practitioners of that town. The reports of the fatal cases drawn up by the medical gentlemen in attendance, and on which the official communication was founded, I have inserted in the Appendix, No. 6.—AUTHOR.

“ 1st, That it is the decided and unqualified opinion of this meeting, founded upon the reports of the gentlemen appointed by the respective parishes to visit the houses of the inhabitants, that the town is now in a more healthy state than it has usually been at the present season of the year ; and, from the best inquiries that have been made in every quarter for information as to the nature of the disorder, which has created unnecessarily so great an excitement in the public mind throughout the kingdom, the same is not the Indian cholera, nor of foreign origin, but that the few cases of sickness and death which have taken place in the town within the last six weeks have, in fact, been less in number than generally occur, and have arisen from that description of disorder hitherto known as ‘ common bowel complaints,’ which visit every town in the kingdom in the autumn, aggravated by want and uncleanness.

“ On the motion of Henry Tauner, Esq., seconded by Mr William Ord,—

“ 2d, That the paragraph inserted in the London newspapers, dated Newcastle-upon-Tyne, the 4th instant, wherein it is stated, that the Asiatic or Continental Cholera had been introduced into this town by shipping from Hamburgh, is a most wicked and malicious falsehood ; and, so far from such having been the case, it is the implicit belief of this meeting, that no seamen or Custom-House officer belonging to the port has been attacked by any complaint resembling it.

“ On the motion of Mr John P. Kidson, seconded by Mr Turner Thompson,—

“ 3d, That the measures adopted by his Majesty’s Government, in requiring the shipping sailing from Sunderland to perform quarantine, and more especially in preventing, as has occurred this day by a ship-of-war,* all ships and other craft from leaving or entering the port, is perfectly unnecessary and uncalled-for ; and more especially, when it is considered that the transit of goods and merchandise of every description, and un-

* The efficiency of this force as a measure of precaution I have frequently alluded to ; and on this occasion it was clearly established, as no craft of any description could enter or leave the Wear without permission of the officer in command. The best-directed exertions in regard to that port were now unavailing ; and a deputation, composed of official persons, having proceeded on board the brig-of-war, she left the port in a day or two after.—AUTHOR.

limited communication by coaches and other means by land, is permitted to every other part of the kingdom.

“ On the motion of Henry Moon, Esq., seconded by Mr Joseph Andrews,—

“ *4th*, That the harshness and inconsistency of these measures are rendered more apparent, by the fact, that, during the raging of the cholera on the continent, ships were permitted to bring from thence goods of all sorts, when, at this moment, ships conveying coals, a mineral, are prevented from proceeding by his Majesty’s vessels-of-war.

“ *5th*, That this meeting deeply regret that any individual, although actuated by proper and honest motives, should have given information to his Majesty’s Government of the existence of Indian Cholera in Sunderland, without having first clearly ascertained the fact, and without the knowledge and sanction of the principal inhabitants; and hope that the opinion of this meeting, respectfully expressed, will prevent in future a conduct calculated to produce such disastrous consequences, not only to this town, but to the country at large.*

“ R. B. Cay, Esq. said, that he agreed most cordially in the sentiments expressed by Mr Wright, and with pleasure seconded the resolution.

“ On the motion of Lieutenant Leech, R. N., seconded by R. Scurfield, Esq.,

“ *6th*, That a copy of these resolutions be signed by the Chairman, and forwarded to his Majesty’s Government through the medium of the commissioners now here, and that the same be printed and circulated.

(Signed) “ JOHN HUBBARD, *Chairman*.”

“ At the meeting of the shipowners, merchants, and other inhabitants of Sunderland and the Wearmouths, held at the Exchange Buildings, yesterday evening,

* It was after visiting the house where the corpse of William Sproat Senior lay, and seeing his son and grand-daughter ill with cholera, that I requested the Rev. R. Grant to wait on Mr Robinson, the chief magistrate, and entreat of him to report to Lord Melbourne, on my own responsibility, the existence of Asiatic Cholera in that town; with which request Mr Robinson complied that evening. It will, therefore, appear that I did not act clandestinely, or with precipitancy; and in doing so without consulting the inhabitants, the events of this day proved that I had adopted the most proper course.—AUTHOR.

“ JOHN HUBBARD, Esq. in the Chair,—

“ The following medical gentlemen, viz. Dr Browne, Mr William Dixon, Mr Smithson, Mr Croudace, Mr Watson, Mr White, Mr Greene, Mr Ferguson, Mr Gregory, Mr Torbock, Mr Ward, Mr Mordey, Mr Cook, Mr Candlish, and Mr Grecian, declared their opinions separately, all agreeing that the cases of cholera which have occurred in Sunderland and the vicinity were not Asiatic or foreign cholera, imported, but aggravated cases of English cholera, and were not contagious or infectious ; and letters were read from Dr Collingwood, Dr Burn, and Mr J. W. Collingwood, to the same effect.

“ Moved by Mr Watson, and seconded by Mr White,—

“ That a general meeting of the medical profession in this town be held at the Infirmary to-morrow at noon, to draw up and agree upon a report of their opinions of the state of health of this town, which may tend to remove the quarantine regulations which have been imposed on it ; and that such report be delivered to the Chairman, to be transmitted to Government.

“ Moved by Mr Richard Spoor, and seconded by Mr Booth,—

“ That copies of the whole of the correspondence which has passed from the late Medical Board of this town to government, or any other board or office in London, be obtained for the information of the public, and that application be made by the Chairman to the proper quarters to procure them.

“ Moved by Walker Featherstonehaugh, Esq. and seconded by Mr William Hutchinson,—

“ That, in addition to the above information, the public be made acquainted with each of the cases reported to Government, particularizing the name, address, and symptoms of each patient, the name of the medical practitioner who reported it, with his remarks and observations as to the name and character of the disease. Adjourned until to-morrow evening at seven o'clock.

(Signed) “ JOHN HUBBARD, *Chairman*.

“ The following is the substance of the opinions delivered by the medical gentlemen at this meeting :—

“ Mr Dixon,—That the continental cholera has not been imported into Sunderland ; and that the cases of sickness which have taken place in Sunderland are aggravated English cholera.

“ Mr Smithson,—That the Asiatic cholera has not taken place in Sunderland.

“ Dr Browne,—That the cases of cholera which have occurred in Sunderland arise from the product of our own soil, and entirely amongst ourselves, and has not been imported, and is not contagious.

“ Mr Croudace concurs with Dr Browne.

“ Mr Watson,—That English cholera only has prevailed here ; and that he has set his face from the first against the proceedings of the Medical Board.

“ Mr White,—That he has not seen a case of Asiatic cholera in Sunderland.

“ Mr Greene,—That the cholera which has appeared in Sunderland has had no foreign origin.

“ Mr Ferguson,—That he dissented from the report forwarded to government by the Medical Board of this town ; and he does not think that we have any Asiatic cholera in this town ; and that he believes we are now in a more healthy state, with the exception of an epidemic English cholera, than we are generally in this season of the year.

“ Mr Gregory,—That he has dissented from the proceedings of the Medical Board of this town from their first commencement ; and we have no disease in this town which he considers Asiatic cholera, or any contagious cholera whatever.

“ Mr Torbock,—That a cholera has appeared in the town, of a malignant character, such as has never been known in this town before, either as it regards the symptoms before death, during the progress of the disease, or on examination after death ; but not of a contagious or infectious character.

“ Mr Ward,—That his unqualified opinion is, that the disease in Sunderland is not a contagious disease, and not more aggravated than the epidemics of the four previous autumns.

“ Mr Mordey,—That the disease in town is not contagious, and that one person who died of it having had to his knowledge a number of individuals constantly in the room who never took it, shows that it was not contagious or infectious. To call it Asiatic cholera is a farce.

“ Mr Cook,—That there is no infectious disease in Sunderland, but a serious disease.

“ Mr Candlish,—This disease is not contagious, but has arisen spontaneously.

“ Mr Penman,—That the cholera which is now in town has the same symptoms as that which has appeared in foreign countries, and is infectious.

“ Mr Grecian,—That we never have had one case of Asiatic, foreign, or contagious cholera of any kind.

“ At a numerous meeting of medical gentlemen residing in Sunderland and its vicinity,—

“ Resolved,—That a disease possessing every symptom of epidemic cholera is now existing in this town ; that it has never appeared on board of ship ; that there is not the slightest ground for imagining that it has been imported, nor that it has extended itself by contagion, though the sufferers have been attended by numbers of friends and neighbours.

“ That it appears to have arisen from atmospherical distemperature, acting in most cases on persons weakened by want of wholesome food and clothing, by bad air, intemperance, or previous disease ; and that the interruption of the commerce of the port seems to offer the most probable means of extending the disease, by depriving the industrious poor of their bread, and thus placing their families in the depths of misery and distress.*

“ In conclusion, the medical gentlemen trust, that the above statements will remove any misconstructions and false reports which have arisen out of this unpleasant affair ; and beg to congratulate their fellow-townsmen on the otherwise good health of the town.

* I have already alluded to all the cases of cholera which were reported to the early part of November (6th) ; and I beg to refer to them, as well as the Official Reports of those inserted in the Appendix. As the disease increased in the evening of the latter day, such people as those alluded to in this resolution must naturally have suffered from the epidemic. From the commencement of the disease, similar arguments were advanced to account for its occurrence ; in answer to which, I never failed to state, that the moral condition of the people was the same as heretofore ; that they lived in a similar way, and occupied dwellings in the various localities of that town, exempt from any such disease as that which prevailed amongst them, and was known to exist in the ports, between which and Sunderland there was constant intercourse. It was, therefore, my well-founded belief, that to importation alone was to be attributed the appearance of malignant cholera amongst them, and referred to the circumstance of all the early cases of the disease made known, having occurred in those employed in the trade on the river, or in intercourse with seafaring people, or the attendants on the sick of that disease.—AUTHOR.

“ William Sedley Burn, M. D., Chairman ; W. Read Clanny, M. D. ; R. G. A. Collingwood, M. D. ; John Miller, M. D. ; J. Brown, M. D. ; W. Hazlewood, M. D. ; George Atkinson, M. D. ; H. Ogden, M. D.

“ Surgeons T. R. Torbock, Thomas White, William Oliver, William Mordey, William Grecian, J. M. Penman, W. Candlish, Henry Holmes, N. H. Maling, Thomas Happer Junior, John Croudace, William Dobson, John Fothergill, John Ward, R. Gregory, Charles Ferguson, J. W. Collingwood, George Green, William Dixon.”

From a perusal of these transactions, it will appear that an unusual state of excitement prevailed in Sunderland, in consequence of the partial restrictions imposed on its commerce. Under the influence of such feelings, the declaration of the inhabitants was made respecting the alleged foreign origin, and importation of the prevailing disease.

Having frequently alluded to the defective state of the quarantine department at that port, from the period when the alarm first commenced as to the probable introduction of cholera, to the moment that it did occur, I feel it imperative on me to explain as far as lies in my power, the circumstances connected with that establishment, in support of the conclusion formed respecting the importation of the disease.

I have already stated the circumstance of ships having arrived in the Wear, and which it was deemed prudent to send up to the quarantine station at Deptford, situated about two miles from the lower part of that river, and that the first case of cholera (Dodds) which I had seen, occurred close to where the ships lay at anchor ; to what extent the disease might have prevailed in that place it was impossible for me to ascertain, nor did I inquire.* At the lower part of the quay, and the scene of extensive trade, from the quantity of shipping in the river, the family of Sproat resided ; the father of these people I visited three days after the former patient, and found him very ill with cholera. He died on the 26th of October, and from his death is erroneously dated the origin of this disease in England,—as

* Immediately after cholera was admitted to prevail in Sunderland, cases of that disease were reported to have occurred in the neighbourhood of Deptford.

it was ascertained in some weeks after, that a young girl, the daughter of a respectable publican, living about one hundred yards from Sproat's residence, died of malignant cholera on the 17th of that month.

The occurrence of the last two cases at the lower part of the river merit attention, from the circumstances I have mentioned, as well as that of the "Christiana of Bremen" having lately been at anchor at no considerable distance, and sent away to a quarantine station. From these statements it will appear, that cholera commenced at Sunderland in the same manner as in all the maritime countries it had visited, and in support of this opinion numerous instances could be stated; yet, I shall content myself with referring to the papers, copied from the Asiatic and Edinburgh Medical Journals, inserted in the commencement of this work, and the annexed reports.

"The cholera was brought to Astrachan by ships, and it has spread itself over Russia from Astrachan by the emigration of the inhabitants, principally those of the lower orders. This is the chief cause of its propagation in Russia; it has never shown itself in any place except where it has been brought by travellers, who came from infected places. We have not a single instance of a town, or of a village, which, without communication with houses or persons affected, has contracted the disorder. Several places surrounded by the disease have preserved themselves from it by a rigid insulation."—(*Extract of a Letter from Dr Rheman of St. Petersburg to the Academy of Medicine at Paris.*)—"From every thing we have been able to learn as to the progress of cholera morbus in the north of Europe,—from its first appearance in the towns and villages of this country, having been generally, if not always, preceded by the arrival of persons or vessels, or both, from infected places,—from the manner in which the disease has now broken out in this city (St. Petersburg) we see no other mode of accounting for its sudden appearance here than by concluding, that barks from places on the Wolga, where the disease prevails, have brought something with them, which, disseminated in this atmosphere, has been the immediate cause of the eruption of cholera which has just occurred."—(*Drs Russell and Barry's Reports.*)

"The first cases of cholera in Berlin occurred among the

skippers of the boats lying on the river Sprée, which flows through the town, and houses in the immediate neighbourhood of the river. The disease has prevailed to a considerable extent in all those streets which lie along the navigated part of the river, and whose inhabitants at the same time live in frequent intercourse with the skippers and fishermen. On the fourth and fifth days cases appeared in other parts of the city, and in many instances they were those of individuals who were known to have had intercourse with cholera patients, or at least with the boats lying on the river, and with the streets first infected."—(*Extract from a Letter of Dr Becker of Berlin.*)

From these reports, as well as many others which are familiar to the public, it may be thought unnecessary on my part, to offer any observations founded on personal experience, or the information I had collected respecting the progress of cholera; yet, in doing so, I am influenced by the wish of impressing on my readers, that the opinions I have expressed relative to that disease are not the result of mere theory or of prejudice.

In the years 1819 and 1820, when cholera committed such extensive ravages on the population of the island of Mauritius, the disease commenced at Port Louis on the 18th of November, and for some time was confined to that town and its immediate neighbourhood. Dr Milligan, assistant-surgeon in the 82d Regiment, who was stationed at Flacq, twenty miles distant from Port Louis, in medical charge of a detachment of that corps, reported to me, that the first case of cholera which had occurred in the vicinity of Flacq, was in the person of a black on the 27th of November, who had returned from Port Louis on the previous evening. Immediately after, the disease spread with fatal violence over the plantation to which the man belonged, and gradually extended to the military station and neighbouring plantations. A similar observation had been made by many respectable and well-informed inhabitants on the island, of the early appearance of the disease in other places, and every precaution was taken by many of them, to prevent as much as possible the intercourse of their slaves with the infected districts. At that period I was stationed at Grand Port on the south-east side of the island, thirty miles distant from Port Louis; and nearly a month elapsed before the disease appeared there. The

first case of cholera which occurred I was requested to see ; the subject of it was a black who acted as a sailor on board a schooner, which arrived from Port Louis that morning. On that or the following day, the disease appeared amongst the soldiers and civil part of the population, and gradually extended into the neighbouring plantations, where numbers perished.

It is essential to remark, that the river in which this schooner lay, forms a boundary to the barracks on that side ; and during the prevalence of the disease, the intercourse of the military and inhabitants was not interdicted. The harbour of Grand Port south-east is commodious, and the scenery around it beautiful. The rivers Chaux and Creole empty themselves into it near the barracks, which are situated on a peninsula, bordered by the former river on one side, and the sea on the other. The situation is remarkably healthy, and, from the prevalence of the trade or south-east wind the major part of the year, it is considered the coolest part of the island. However, for many years past it has been abandoned as a port for foreign trade, although vessels commonly pass it from Europe, and the east, on their route to Port Louis. It was therefore with surprise, and no inconsiderable alarm, that the occurrence of spasmodic cholera was reported in the 82d Regiment stationed at Grand Port in March 1829 ; as the best state of health was known to prevail at Port Louis, and the other parts of the island at that time. It was difficult to account for the origin of the disease at a place which was not resorted to by vessels engaged in foreign commerce. Grand Port, however, offered many facilities for carrying on a clandestine, or contraband trade, with ships off the island ; and independent of the usual temptations to such a practice, the long detention in quarantine to which vessels were subjected, in case of their arriving from ports where cholera prevailed ; as well as the unaccountable circumstance of no custom-house officer, or any person whatever residing there, who possessed or exercised any control over the commerce of the port, may have contributed to encourage.

In forwarding my report to the Army Medical Board on the appearance of cholera in the regiment in March 1829, and which continued to recur until the early part of April, I refrained from offering an opinion as to the cause from whence it

originated, nor shall I now attempt doing so. Yet to whatever source it was to be attributed, the most unequivocal proofs of its being propagated by contagion were afforded early in the disease, by the persons in immediate attendance on the sick, as well as patients in hospital with other diseases, having been severely affected with cholera. In my report to the Army Medical Board, I stated, that, in the disease which had recently occurred, every well-marked symptom of cholera was present, except the extreme collapse witnessed in the former epidemic of 1819, and to that circumstance, as well as the persons affected having been immediately seen, and admitted into hospital on becoming ill, I have to attribute the singular circumstance of all (58) who had the disease, having recovered. In the treatment of cholera, the remedies required are, in my opinion, limited as to variety; and on the occasion above alluded to, ether and laudanum in peppermint water; calomel and opium in the form of pills, and repeated as the urgency of the symptoms indicated, with warm applications to the surface of the body, were the remedies prescribed; in addition to which the use of the warm bath was attended with the most marked benefit. Camphor-mixture, with aromatic confection, was exhibited in such cases as were attended with great debility. In support of this statement, I beg to refer the medical inquirer to my report* in the Record Office of the Army Medical Board, the documents in which are, through the courtesy of Sir J. M'Grigor, Director-General, accessible to the profession.

I consider it, however, essential to afford my readers an opportunity of judging of the correctness of my opinion respecting the character of the disease which prevailed at that period; and

* The following letter was addressed to the principal medical officer, on the receipt of that report:

ARMY MEDICAL DEPARTMENT,
6th November 1829.

Sir,—I have to acknowledge the receipt of your letter of the 7th of May last, with inclosed report of Surgeon Kell of the 82d Regiment, on the cholera which has been so prevalent in that corps. I beg you will request Mr Kell to accept my thanks for this interesting and important communication, which is creditable to his zeal and talents.—I have the honour, &c. &c.

“To Dr JAMES BARRY, or Principal Medical Officer, Mauritius.” J. M'GRIGOR, *Director-General.*

therefore have inserted in the appendix a few extracts from my report.* That document was drawn up in a far distant land, some years since, and not written to support or establish any particular theory, or mode of treatment; yet, from the unusual, perhaps incredible success which attended the practice adopted, doubts may arise in the minds of many, as to the identity of the disease with the spasmodic cholera of India; it is therefore with infinite pleasure I avail myself of the opportunity lately afforded me by the polite attention of Sir James M'Grigor, to insert an extract from a letter addressed to him by Dr James Barry, then principal medical officer at Mauritius, as being most satisfactorily corroborative of the accuracy and fidelity of my statements.

“PORT LOUIS, MAURITIUS, *6th April* 1829.

“SIR,—I have the honour to transmit the inclosed documents relative to the late visitation of cholera in this command. Immediately upon the receipt of Surgeon Kell's letter (No. 1.) I proceeded to Mahebourg (Grand Port,) and witnessed the admission of several severe cases of cholera. The patients were suddenly attacked with vomiting, purging, violent spasms in the legs, arms, and abdomen, and the countenance, even during the intervals of the spasms, exhibiting a peculiarly anxious appearance. One young man, apparently in good health, assisted to bring his comrade into hospital about 9 o'clock P.M. He returned to the barracks, and scarcely five minutes had elapsed before the poor fellow was brought in his blanket, attacked with cholera in alarming state, and continued to suffer until midnight, almost incessantly roaring out, and writhing with spasms.

“I shall not dwell further upon the cases, as Mr Kell's letters (I send you copies of the most important) will afford every information. No words can express the alacrity and devotedness of Mr Kell, in succouring the unfortunate sufferers, and it will give you much pleasure to hear that not one case terminated fatally. There can be no doubt upon the mind of even the most sceptical here, but that to Mr Kell's decided, prompt and judicious treatment, must be attributed not only the favourable termination of the cases in his regiment, but that the cholera,

* See Appendix, No. 12.

that awful infliction, has not spread itself far and near through the colony; in fact, he nipped the disease in its bud, so that it has been altogether confined to that military post.—I have the honour to be, Sir, &c. &c.

“ JAMES BARRY, M. D. *Ag. Physician*
to the *Forces*, and *P. M. O.*

“ To Sir JAMES M'GRIGOR, M. D.
Director-General, Army Medical Department.”

Immediately after the appearance of cholera in the 82d Regiment was reported to head quarters, his excellency Lieut.-General Sir Charles Colville, governor and commander-in-chief, directed that the soldiers should be restricted to the limits of the military cantonment, which the scattered and scanty population surrounding it were prevented from entering. The small bazar established for the convenience of the military is in the immediate vicinity of the barracks, and to which a few soldiers were unavoidably obliged to resort for the purchase of vegetables, fish, &c. &c. This state of seclusion continued for many days after the last case of cholera was reported; and, as far as could be ascertained, the only case of the disease which occurred beyond the barracks was in the person of a free black woman, in the service of an officer of the regiment. This woman was affected at three o'clock in the morning with all the usual symptoms of cholera; the state of collapse was alarming, and the most agonizing pain experienced from spasms of the muscles over the entire body.

I have long been impressed with the belief of the erroneous opinion of the occurrence of cholera, as dependent on any particular diet or mode of life. At Grand Port, there is no town; the troops and their families are chiefly supplied with bread, meat, and spirits from the government stores; the water used by all is from the same source; and the poultry, fish, and vegetables were procured from the bazar; and in the epidemic cholera of March 1829, as well as that which prevailed 1819–1820, the sober and dissipated were equally the victims of its visitation.

I have to notice a singular phenomenon attendant on cholera, in the cessation of other diseases during its prevalence. Before

the appearance of cholera at Grand Port in December 1819, fevers, liver complaints, dysentery, and other acute diseases, were of frequent occurrence; yet during the continuance of cholera but few cases of the former diseases were reported. However, on its cessation, endemic diseases were again frequent. I have to record a similar observation relative to cholera which appeared at the same station in March 1829: From the early part of January to that time, fevers, acute and chronic inflammation of the liver, dysentery, and other acute diseases, were not at any former period so frequently reported; yet on the appearance, and during the prevalence, of cholera, these diseases ceased to occur.* This circumstance, as connected with the pathology of cholera, merits attention; more especially from its occurrence at an isolated military post, in a healthy and delightfully situated island.

I likewise have to remark another singular circumstance attendant on cholera, in the rapid approach to convalescence after the most severe attacks of the disease, provided it has not been of long continuance. It may be considered, that I have entered into a more minute detail of circumstances connected with the appearance of the disease I had formerly witnessed than is essential to the object of the present work; yet in doing so, I have been influenced solely with the view of placing in a clear and satisfactory manner before my readers the facts on which my opinions were founded; and, from the relation of all the circumstances connected with the origin and spread of cholera at Flacq, and Grand Port, in the years 1819–1820, no doubt can be entertained of the infectious or contagious character of the disease. In the epidemic cholera of 1829, I was wholly unable to account for its occurrence; but, to whatever cause it was owing, it was evidently propagated by contagion, as would appear from the attendants on the sick, and patients in hospital, ill with other diseases, having taken it. And to the circumstance of Sir Charles Colville having interdicted the intercourse of the soldiers and inhabitants in the neighbourhood of the barracks, must be attributed the singular fact of the disease being limited to those residing, or in intercourse with them.

I have formerly noticed the frequent arrival of ships in the

* See Returns of Sick in Appendix No. 10 and 11.

Wear from ports in the Baltic, and in many instances they sailed direct into the river,—a circumstance which could not be prevented by the local authorities; and from the custom which exists of the ships belonging to that port discharging ballast when off the coast, it would frequently be unsafe to remain out, in consequence of the strong easterly winds which generally prevail. In support of this statement, I have to mention a circumstance, founded on personal observation, as being fully corroborative of the practice to which I have alluded. Towards the middle of October, a vessel sailed into the Wear on a stormy day, and soon after I was informed of her having been sent up to the quarantine station at Deptford. In conversation with a medical gentleman of Sunderland at the time the occurrence took place, I remarked on the serious consequences which might ensue from that proceeding; and, in answer, was told that the vessel, having discharged her ballast, she could not remain in the roadstead. In reply, I stated that if a ship of war was stationed off the Wear, such an excuse would have little influence with her commander. At the time when quarantine was first directed in regard to ships from the Baltic, it appears unaccountable that orders were not given to prevent the ballast being thrown over board, and thereby remove all pretext for a direct entrance to vessels from ports in that sea. For the continuance of this practice, the only excuse which existed was the expense incurred in sending it out in lighters. To the observance of an opposite system, I have to attribute the circumstance of the foreign ships already alluded to as having been ordered out of the river to quarantine stations, being able to put to sea.

It will be evident to every impartial or unprejudiced person, that the examination of a vessel by the officers of the quarantine department, after her entrance into a river, crowded with craft of all descriptions, afforded no security whatever; and if any objections should arise against her remaining, there was no alternative left, but that of sending her up the river, as it were into the country, where there were no means of enforcing seclusion.

That such a course of proceeding in regard to ships from suspicious or infected ports, was not likely to avert the threatened visitation ought to have been foreseen. Independently of these

violations of the principles on which sanitary regulations are founded, the duties of health-officer of that port were conducted in a manner which must excite surprise, and to the rigid performance of which so much importance was attached. The medical gentleman intrusted with that office is deservedly much esteemed, and in extensive practice ; but, in consequence of his professional avocations, it would appear that he was frequently unable to attend to the duties of the quarantine department. He therefore had to delegate the discharge of those duties to other professional men, and the irresponsibility inseparable from the employment of a deputy, was in this instance increased from its not having been confined to any particular person, as will appear from the following communication of Mr Mordey, surgeon, inserted in the Medical Gazette, 25th February 1832 :

“ I beg leave to add a few words on the subject of quarantine, which, so far as this place is concerned, seems to have been strangely misunderstood and misrepresented. The medical gentleman who generally examined the crews is well known, in great practice, and of high character. I was applied to, to take the duty in his absence, and the names of other practitioners on the list were of decided eminence. It so happened, however, that, though frequently sent for, I was always absent when the officers called, so that I never attended professionally ; but I received from the principal officer the most special and particular directions as to what was required, and he directed my attention to many details which I should not otherwise have considered important. I know how the duty was performed here, and that the examination was sufficiently minute in every respect. Of the anxiety to do the duty well and efficiently, no better proof can be adduced than the circumstance of a steam-boat being generally at the orders of the officers. The severity of the law has more than once excited complaint ; but how far quarantine of any kind can check the disease, or prevent it from spreading, is a totally different question.

“ *Sunderland, Feb. 21, 1832.*

WM. MORDEY.”

It is foreign to my intention to offer any observations that could in the least degree be considered as affecting the professional character or conduct of any person thus employed, and whatever oversight may have occurred in the performance of a

duty of unusual responsibility, that it arose from want of experience in an office which was equally new to all who had officiated. I am aware that the best directed exertions of the officers attached to the quarantine department would be unavailing, as long as the bedding and clothes of those who had been ill, or died of cholera, were permitted to be landed. The danger likely to ensue from such a source I was early impressed with, and to which I have referred in the former pages of this work ; yet the evil continued, as no order existed against it ; and were it possible to trace the first cases of cholera which occurred in Sunderland, it is probable that they would be found to have originated from this well-known source of infection. In illustration of this opinion, I shall relate an instance which occurred in a family of respectability residing in Villiers' Street, and with which I became acquainted soon after. The circumstances were, the master of a ship, Mr K., died of cholera at Riga, or some other northern port ; his clothes and other property were brought home to his wife, who examined them. Immediately after (24th October) she was severely affected with cholera, and her sister who attended on her, had also the disease in a severe form, although they both recovered. This fact alone, in my opinion, proves that the disease may be communicated by the medium of clothing, and I infer that many families may have taken the disease by a similar mode of communication.

Independently of the circumstances I have alluded to relative to the state of quarantine at the Wear, there was no period specified as necessary to intervene between the sailing of ships from Hamburgh, or ports in the south of the Baltic, and their being admitted into Sunderland, which must be considered extraordinary from the proximity of those ports, and the voyage being in general performed in a very few days. In such instances, a clean bill of health, and personal examination of the people on board, was considered sufficient, as would appear from the letter of Mr Whitmore, secretary to the Board of Customs, inserted in the Courier, 12th November 1831. * Although it may be difficult to define with certainty the period which might elapse as to the occurrence of cholera after exposure to infec-

* See Appendix, No. 7.

tion, the facts connected with the extension of this disease in the countries it had visited would have justified the detention of ships for a much longer period than that usually occupied in the voyage from the ports alluded to and the Wear. On this point the Government was convinced immediately after, by its directing a restriction of fifteen days on vessels sailing from that river to any of our domestic ports, and which by many was considered insufficient for the object intended. It has been repeatedly urged in opposition to the conclusion of cholera having been imported, that such a circumstance has not been clearly established, and the facts on which that opinion was founded made known. From whom was the information to be obtained, and who alone could furnish it? Individuals of that town whose views of the pestilence were in direct opposition to such a principle, as well as the opinions which they publicly expressed on a former occasion.

I am aware of the highly responsible office I have undertaken in detailing the circumstances connected with the duties of a department, to the supposed mismanagement of which so many evils may be attributed. It is, however, a duty which I owe to myself, in consequence of the part I took, and the opinions which I expressed on the nature of the disease from its commencement.

In this, as in other countries, on the occurrence of a calamity affecting the public, individuals in official situations are too frequently the objects of popular displeasure, and, in my opinion, never was this feeling manifested with more injustice than in regard to the collector and officers of customs entrusted with the duties of the quarantine department at Sunderland.

The situation in which they were placed was one of difficulty and great responsibility, and which was increased from the causes I have so frequently referred to, as well as from the inexperience of the people on whom the principal officer had to depend for the execution of such orders as were given by him.

In concluding my observations on this delicate, and to me unpleasant subject, I cannot avoid expressing my regret that the investigation which I demanded in October had not been acceded to, as it would have established the facts stated by me in respect to the foreign ships having arrived in the river Wear in

August from ports where cholera prevailed. I may also be permitted to express the same feeling, that the investigation intended to have been instituted by Sir William Pym, or the Central Board of Health, in regard to all ships which had entered the port of Sunderland from Hamburgh, or ports in the Baltic, previous to the irruption of cholera at the former place in October, had not been carried into effect, as it would in all probability have established the facts on which the importation of the disease had been founded. Having been consulted with others on this measure, I concurred in the propriety of it, provided it was conducted by individuals unconnected with the commerce of the place, and the examination of witnesses to be taken on oath.

The result of such an inquiry at Sunderland might have proved a want of foresight in those whose duty it was to have guarded against all possible contingencies in regard to the introduction of cholera; yet it would have afforded the Government, as well as the public, such information as would have led to the adoption of vigorous and efficient measures on the part of the former, to prevent as much as possible the spread of the disease, and in which the latter, it is probable, would have cheerfully acquiesced.

From the moment it was publicly known that cholera had appeared in Sunderland, the most painful state of anxiety pervaded all classes of society throughout the neighbouring counties, and which was increased from the want of correct information as to the extent of the disease. In this state of suspense, medical practitioners were deputed from various parts of the country to inquire into the nature of the prevailing disease, and to report on it for the information of the communities by whom they were sent. The performance of this duty was frequently attended with difficulties, in consequence of the discrepancy of opinions which were promulgated by the medical profession in Sunderland, and from whom the information was in general derived. However, it was almost universally admitted that a disease did exist in that town attended with symptoms new to them, which frequently terminated in death after a few hours' indisposition. It was therefore with extreme surprise that the public beheld the resolutions of the inhabitants of Sunderland on a subject which had engrossed so much attention during the previous fortnight.

The evil consequences which resulted from these proceedings were apparent, from their having increased the doubts and vacillating opinion of many in respect to the true character of the disease, and thereby affording an opportunity to the prejudiced or interested in many parts of the kingdom to promulgate opinions which were too frequently in opposition to facts founded on truth and experience.

It is to be regretted that during this period of excitement in regard to commercial objects, that cholera was increasing, and the mortality considerable; yet no hospital was open for the reception of the afflicted until the 14th November. The house allotted for this purpose was commodious, and capable of accommodating many patients; but, from its being situated at the very southern point of the town, remote from the habitations of many who were ill, and an early prejudice having arisen against that institution in consequence of a *post mortem* examination that had taken place there, it did not afford those advantages which had been anticipated. However, such patients as were admitted enjoyed the benefit of constant medical attendance, and those comforts which the destitute cannot procure unless at a public institution.

Previously to, and after the hospital was opened for the accommodation of cholera patients, the exertions of the members of the medical profession in Sunderland were highly creditable to them; yet, in noticing such praiseworthy and disinterested conduct on the part of the medical practitioners of that town, it is difficult to refrain from expressing surprise at the want of foresight on the part of the Local Board of Health in not providing means suited to the emergency it had long anticipated.

On the 14th November, the Board of Health in London, over which Sir H. Halford presided, was dissolved, and a new Board was constituted, termed the "Central Board."* As to the causes which induced the change, it is foreign to my duty to inquire; yet, as the former Board had, from the first moment of alarm caused by the probable introduction of the disease to the period it did occur, the direction of such measures as were con-

* Honourable Edward Stewart, chairman; Sir William Pym, superintendent general of quarantine; Dr (now Sir William) Russell, Dr (now Sir David) Barry, members.

sidered best calculated for the public safety, it is to be lamented that it was not enabled to act with that energy which the crisis demanded, and in conformity to its publicly expressed opinion. It is perhaps unnecessary to observe, that the Board of Health in London was composed of individuals of the highest rank in the medical profession, as well as those holding high official situations, and men long habituated to the detail of laborious duties; yet, from their first entrance into office, an unaccountable opposition was raised to such regulations as were deemed essential to the public safety. On this principle it was that his Majesty's proclamation of June, respecting the rigid enforcement of quarantine, caused considerable controversy. And at a later period, when cholera had appeared at Hamburgh, and public hope rested for security on the continued maintenance of quarantine on vessels from that and other ports infected with cholera, the protecting power of that institution, as well as any other sanitary regulations, became the subjects of ridicule; and with reckless confidence predictions were constantly promulgated in support of these opinions, even after the disease had appeared at Sunderland from the neglect of those measures.

The Board of Health published, under the authority of the Lords of the Privy Council, on the 20th of October, a "Sanatory Code,"* which was received at Sunderland immediately after the cholera had appeared there. The recommendations and regulations contained in that document expressed most fully the opinion of that body as to their well-founded apprehensions of the contagious nature of the disease, and the calamitous consequences likely to result from its extension over the empire.

Although many of the provisions contained in it were considered as ill-suited to the present state of society, and difficult in their application, as being contrary to the freedom of our institutions, yet, it is to be lamented, that the least objectionable of them were not adopted.

In that official paper, many regulations of practical importance were, in my opinion, omitted; and, on the day after cholera was officially reported, I took the liberty of forwarding to the Board of Health in London, (through the medium of Sir J. M'Grigor,) a memorial relative to sanitary regulations, in the

* Appendix, No. 3.

hope of their being adopted at Sunderland, and the other commercial ports on the eastern coast, an abstract of which I have inserted in the Appendix. *

It must appear unaccountable, that in respect to a pestilence which had heretofore caused so much apprehension on the part of the Government and people of this country, that measures were not taken to prevent the spread of the disease in Sunderland, or its extension into the surrounding districts. The public had been induced to place reliance on the adoption of some regulations for their common safety, in consequence of the publication of the sanatory code, and the more recent orders of the Lords of the Privy-Council on the 4th November. However, the evil which had been long anticipated, seemed to have paralyzed all exertion when it did occur; and under such a state of inaction, the population of the southern parts of the county of Durham associated to repress, and, if possible, to prevent the intercourse of people from Sunderland with their part of the country. Although such a course of proceeding was illegal, yet the inhabitants acted on the various official reports published as to the nature of cholera, and in perfect accordance with the sanatory code and proclamation of the Privy-Council above referred to. It will therefore cause surprise, that such a natural effort for the preservation of life should have met with opposition, as will appear from the following paragraph, copied from the *Sunderland Herald*.—"A deputation, consisting of Thomas Wilkinson, Esq., chairman, and John P. Kidson, Esq., secretary of the Board of Health of this town, accompanied by Dr Daun and Lieut.-Colonel Creagh, proceeded to Auckland Castle on Wednesday last, the 16th November, to lay before the Lord Bishop of the diocese the exact state of health of the inhabitants of these towns, and to dispel the fear that had manifested itself in some places in the vicinity of his Lordship's residence. The annexed minutes of the conference with the Lord Bishop were read the following day at a public meeting of the Board of Health at the commission-room, in the Exchange Buildings, in this town.

"On the introduction of the deputation, when the object of its coming was distinctly understood, the Bishop entered into

* No. 4.

an explanation respecting the measures of precaution which had been adopted to restrain the conveyance of goods from Sunderland by the carriers. He stated, that such measures did not originate with him, but with the Mayor of Straindrop and Stockton, and with the magistrates of Barnard Castle,—that other magistrates had written to him on the subject of the Sunderland carriers being permitted to have free intercourse with all parts of the country, in the strongest terms,—and that, holding the responsible situation which he does in the county, he could not, without a neglect of his duty, refuse to sanction the restraining measures already taken or contemplated with respect to their intercourse, which measures, in fact, would have been, or would be, equally taken without him.

“ In consequence, however, of the agitated state of the county, he had thought it his duty to request the High Sheriff to call a general meeting of the Magistrates, to take into consideration such measures as they may think adviseable ; and he recommended that the Board of Health should immediately open a communication with that meeting, and lay before it the statement which may be judged likely to have weight with the High Sheriff and the other magistrates.”—*Sunderland Herald*, November 18, 1831.

I cannot avoid stating the regret I felt at that time on the object of this deputation, from a well-founded belief that such a proceeding was calculated to confirm the doubts of many, and to countenance the late proceeding at Sunderland, in respect to the prevailing disease.

The state of suspense which influenced the public from the period cholera was reported to have appeared in this country, had been already increased by many inconsistent proceedings, and to which the daily and periodical press fully contributed.

The uncertainty thus produced was attended with the injurious effect of counteracting the exertions which the occasion demanded, as well as in arresting an appeal to private benevolence and public charity, in the hope of alleviating the distress inseparable from such an occurrence.

In a situation in which all classes equally participated, it is to be lamented that the Board of Health, of which Sir H. Hallford was president, did not publish any reports as to the nature of the disease, or the progress it was making, and which, it is

probable, would have been attended with the salutary effect of allaying public excitement, and repressing the circulation of erroneous statements in respect to it. Unfortunately, that Board rested satisfied with the publication of a numerical return of cases and deaths, and which were too frequently incorrect. It is natural to suppose, that, during the period the controversy continued, I should feel much distress from the part I took on the appearance of the epidemic, in having called the attention of the Government, and Board of Health in London, to its occurrence. Under the influence of this feeling, I should have considered it an act of justice to my moral, as well as professional character, to have offered such a statement to the public as might remove the doubts entertained as to the nature of the disease at Sunderland, were it not for the great excitement which existed throughout the kingdom, and the angry feelings expressed on the occasion, and which would, in all probability, have been increased by any discussion of the proceedings which had taken place before, as well as after cholera had appeared in Sunderland; I therefore had no other alternative but to rest satisfied with the course I had followed, and to remain a silent witness to the extension of a pestilence, the consequences of which I had in vain predicted.

Immediately after the formation of the central Board of Health in London, Dr (now Sir David) Barry, a member of that Board, was despatched to Sunderland, where he arrived on Sunday the 21st November. The circumstance of this functionary's mission it was difficult to account for, as Dr Daun, and his colleague, Dr Gibson, had been officially employed at Sunderland from the first week in November in the discharge of the duties assigned them by the Board of Health in London, under the sanction of the Lords of the Council. Immediately after the arrival of Sir David Barry, I waited on him at his request, and accompanied him and Dr Daun to visit the cholera hospital, in which lay a few patients ill with that disease, and on the identity of which there could not exist any doubt. Sir David Barry visited many patients ill with cholera in different parts of the town on that day, and was accompanied by Dr Daun or other professional persons.

In consequence of the opinion expressed by Sir David Barry

in his official reports from Russia on the contagious character of cholera, and his having been despatched from London by the newly formed Board of Health, it was then supposed that measures would have been adopted, in the hope of preventing the spread of the disease in Sunderland, as well as its extension into the neighbouring towns.

Of the fortunate results from sanatory restrictions, Drs Russell and Barry were fully convinced, as would appear from many of their reports from Russia, and of which the following extract is relative to the seclusion of the Emperor and his family from St. Petersburg:—

“ The cordons around Zarcozelo and Peterhoff were removed last week. We immediately visited these places, and saw, for the first time, Sir William Crichton and Sir James Leighton. Both these gentlemen separately and positively asserted, repeated the assertion, and permitted us to note it, that no case had occurred within the sacred precincts of either cordon since their establishment, though the circle of demarcation was completely surrounded with the disease, and though the enclosure around Zarcozelo contained from 8000 to 10,000 souls.”
—*Drs Russell and Barry's Reports.*

The intercourse of people from Sunderland with all parts of the country, I have already remarked, continued free from the first appearance of the disease, while the restrictions on the shipping were continued ; yet, from this partial measure, many evils arose, and a much greater risk of spreading the disease incurred, in consequence of the sailors of the port of Sunderland constantly repairing to the ports of Newcastle, Shields, and Seaham, in its immediate vicinity, and on the shipping of which there was not at that time any quarantine. It will, therefore, appear that individuals leaving Sunderland or its suburbs, with their hammocks and clothes, at a period when the disease prevailed in their families, were the most likely means of propagating it at the various ports of the kingdom, and of which the following is an illustration, immediately after cholera commenced :

“ Richard Gamble, aged twenty-three, a seaman on board the *Threc Sisters*, sailed from Seaham on the 11th November, was seized with the usual symptoms of cholera at one o'clock on

the morning of the 13th. At half-past eight o'clock a surgeon arrived on board from Lowestoffe, who bled him, and in an hour after the patient died.

“ The deceased had passed two nights at Sunderland with his family while the vessel was loading at Seaham.”—*Cholera Gazette*, No. 3.

In the last week of November, a numerously attended meeting of the magistrates of the county was held at Durham, agreeable to the promise of the Lord Bishop of that diocese, to consider on the propriety of restricting the intercourse between Sunderland and the interior of the county, during the prevalence of the disease. Lieut-Col. Sir Michael Craigh, Sir David Barry, and Dr Daun, were invited to attend. Much discussion arose on the subject of the proposed restrictions, and many interrogatories were put to the medical commissioners in regard to the utility of such a measure. It was, however, decided by a majority of one vote, that no sanatory measures should be adopted. Thus terminated the first and only legal effort made to confine that disease within the place it first appeared in this country, and which, in its subsequent extension, has been attended with much loss of life, and great increase of human misery.

I shall not offer an opinion on the motives which influenced this determination on the part of the official persons assembled; yet it is to be regretted, that a measure on which the health and happiness of the community depended, should have been submitted to the decision of any class of people unconnected with his Majesty's Government.

Immediately after the arrival of Sir David Barry at Sunderland, a letter from him to the Central Board of Health appeared in the London newspapers, in which he explicitly stated his opinion of the disease which he had seen in that town, being in every respect similar to that he had recently witnessed in Russia.

The publicity given to this opinion was attended with some advantage, as the existence of cholera in this country was soon after generally admitted, although the controversy respecting its origin and the mode in which it was propagated continued to be agitated. In referring to this communication, I am induced to do so, in support of the opinion I have given of the bad consequences which resulted from the former Board not having

published any reports on the subject ; and on such an occasion, it was to be regretted that some of the members of that Board had not instantly repaired to Sunderland, and endeavoured to put in force the sanatory regulations it had promulgated, and which the Government had sanctioned in the proclamation of the 4th November.

I have already remarked on the inexplicable phenomena of the capricious course of cholera, as well as of its continuance in certain localities. This circumstance was fully realized at Sunderland, and affords an additional subject for regret, at the neglect of all sanatory regulations at that place. The early appearance of cholera on board a ship after exposure to infection, I have lately noticed ; yet five weeks elapsed from the period the disease was ascertained to prevail before any case of it was reported from the neighbourhood of that town.

At Newcastle, distant twelve miles from Sunderland, an alleged fatal case of cholera was stated to have occurred on the 26th November, which caused considerable excitement, and much controversy as to its real character ; however, cholera did not appear in an epidemic form until the 7th December, when it spread with violence over many parts of that town.

The suburb of Gateshead is situated on the south bank of the Tyne, with a population comprising many thousands, and in constant intercourse with Newcastle ; yet, singular to state, cholera was reported not to have occurred there until the 25th of December ; and on that melancholy event the malignity of the pestilence was truly appalling. As to the further progress of the disease, I shall refer to the following reports, officially made to the authorities in London.—“ M. Liddle, forty-five years of age, a travelling-pedlar, left Sunderland on the 1st December, and arrived at Haughton, seven miles distant, that afternoon ; at eleven o'clock that night she became ill, and died the following day.”—“ On the 2d December, George Woods, a carpenter, residing at Penshaw, five miles distant from Sunderland, was affected with cholera, and died the following day.” At North Shields, distant seven miles from Sunderland, cholera appeared there on the 10th December, as reported by Mr Greenhow, surgeon.—“ Dennis M'Guire, a mendicant, and dealer in old rags, had been over to Sunderland for a few days, returned

to this place on the 8th December, bringing with him a considerable quantity of old rags; on the 10th he was attacked with cholera, from the effects of which he is recovering. The wife of this man was taken ill on the 13th December, and died the following day."—*Medical Gazette*, 31st December 1833.

I have confined my allusion to the few cases of disease officially reported, although I had been informed of its occurrence at Shields some days before in a family of itinerant tinkers, one of whom died at Sunderland, and, after the interment of the body, left that town for Shields, carrying with them the clothes of the deceased.

I shall not refer to the grievous consequences which ensued to the population of Newcastle, Gateshead, and Shields, from the spread of cholera to these towns; the calamity was, however, increased, from the facilities afforded of propagating the disease, through the medium of the extensive commercial intercourse of those places.

In a free state, any restriction which may affect personal freedom, or the intercourse of social life, must be regarded as an evil of no ordinary magnitude; yet the most fastidious on these points must regret the want of any municipal regulations calculated to prevent such sources of infection as I have referred to being carried through the country. Cholera, after its appearance in the places I have mentioned, continued to spread in different directions, and the disease might then be considered as having permanently established itself in this country.

In the early part of December, cholera had spread more extensively over Sunderland and its suburbs, and the cases of a malignant type were more numerous. At this time medical practitioners from all parts of the united kingdom, and Messieurs Magendie and Guillot from Paris arrived at Sunderland, to witness the symptoms and treatment of a disease which had heretofore exercised so powerful an influence over the fears and hopes of the people in both countries. Among the many medical gentlemen who were then in that town, I had the pleasure of being acquainted with Dr Law of Dublin, deputed by the Irish Government, and ~~also by~~ Dr J. Ferguson, similarly employed by the College of Physicians in Ireland. ~~While much~~
~~valuable information was obtained from a visit to the hospitals~~

~~These gentlemen were pleased to inquire of me, as to the most successful mode of treating the disease, and my opinion as to its foreign origin and contagious character, which I gave in accordance with the sentiments publicly expressed by me, and so repeatedly referred to in this work. From Dr Ferguson I received the information of the continued doubts of the medical profession in Dublin as to the existence of cholera in Sunderland, until after the publication of Sir David Barry's letter to the Central Board. With feelings natural on such an occasion I exhibited to him and Dr Law (as I had before done to Sir David Barry) copies of my letters to Sir J. M'Grigor, and which had been submitted by him to the Board of Health and members of his Majesty's Government, stating my opinion of the disease, from the first well-marked case* of it I had seen, on the 23d of October, four weeks previously to the arrival of Sir David Barry in Sunderland.~~

In consequence of the omission of any well-arranged plan for the immediate relief of such as were afflicted with the disease, and the impossibility of the medical practitioners of the town affording the prompt assistance required by so many, the presence of the medical visitors proved fortunate to numbers; yet, in alluding to this subject, I cannot avoid mentioning the surprise expressed by many individuals, at that period of distress, in regard to the unaccountable neglect, in not providing means of relief suited to the exigency of the occasion, the probable occurrence of which had been so long foreseen. It will, therefore, appear unaccountable that measures were not adopted to afford relief to all who demanded it, not more with the view of alleviating the personal sufferings of such as became the victims of a painful and destructive disease, than in the hope of arresting its extension, and which could only be accomplished by a liberal pecuniary contribution, aided by the powerful exertions of

* From the circumstance of reaction having occurred in Dodds' case before my seeing him on the 20th of October, I could not form a decided opinion, from personal observation, as to the real character of his disease; however, from the statement made by his medical attendant, and the account given by the young man of his sufferings on the previous night, little doubt could exist as to the nature of his disorder.

the Local Board of Health or the "Central Board;" unfortunately such means were not resorted to, and the limited accommodation prepared at the Cholera Hospital was unsuited to the occasion; and, from its situation at the extreme point of the town, was often too remote to admit of patients being removed there. Independently of these disadvantages, an early prejudice arose at Sunderland against public institutions for the treatment of cholera, and which has unfortunately extended with the pestilence.

In a disease where the delay of minutes in receiving medical aid too frequently decides the fate of the patient, it is to be lamented that temporary hospitals, on a limited scale, were not formed in the immediate vicinity of such parts of that town where the disease was most prevalent, for the reception of all who wished it, or dispensing advice and medicines to those who required it at their homes. Such an arrangement would have been attended with incalculable benefit; however, there unfortunately existed no fixed plan beyond what prevailed in periods of perfect health; and each individual on becoming ill, naturally had recourse to the medical practitioner whom he usually employed, and who was often unable to attend from the multiplicity of his engagements. In the commercial and manufacturing towns in England, societies for affording relief to sick and indigent members are of long standing; and from such establishments, much benefit has arisen from the pecuniary aid occasionally afforded, and the regular employment of a medical practitioner to attend on the sick of the society. Yet, on the occurrence of this grievous visitation, what was once deemed an advantage now became an evil, in consequence of the poorer classes of these associations relying for relief on the medical person employed to attend on them, and which was frequently impossible, from the numbers who demanded it: And the majority of the cases of cholera generally occurring during the night, rendered the difficulty greater, and the prospect of immediate relief more hopeless.

The extensive suburb of Monkwearmouth, situated on the northern bank of the river, is stated to contain a population of six or seven thousand, the majority of whom are occupied in the trade of the port. At this place, cholera was reported to have occurred on the 31st October, but to what extent it subsequently

prevailed I was unable to ascertain with any degree of accuracy ; however, from its early appearance there, and the malignant type of many of the cases reported, (some of which were seen by Sir D. Barry,) it is natural to conclude it had been considerable.

The circumstance of not having an hospital in that place for the reception of patients ill with cholera, or an institution to afford advice and medicine gratuitously to all who required it, seems perfectly unaccountable.

Independently of the duty which religion and morality impose of alleviating the distress of the sick and indigent, feelings of humanity, as well as policy, should have dictated the adoption of vigorous measures to arrest the spread of cholera, as individuals leaving the Wear at such a period on board of ship, were the most certain means of propagating the disease at the ports they were destined for.

On the 30th of November, the quarantine of fifteen days on vessels leaving Sunderland, was reduced to a period of ten days, previously to their entrance into any of our domestic ports, and a similar restriction was imposed on ships leaving the Tyne ; yet this hazardous concession to commercial importunity did not afford satisfaction to the trading people of Sunderland, and angry feelings continued to be manifested in every thing that related to the disease. From the causes I have so frequently alluded to, I felt convinced that this measure was attended with extreme danger to the people in the eastern ports of the kingdom and the capital in particular ; and therefore was induced to state my opinion on this point to Sir J. M'Grigor, from the supposition of the former Board of Health continuing to act as a deliberative body, when required by Government ; and to avert the evil consequences I anticipated, I stated that, as the bedding and hammocks used on board of ship were the private property of the sailors, and taken on shore when at home, that new articles of that nature should be furnished by the ship-owners, and form part of the *materiel* of the vessel ; and that, on leaving port, the health-officer should examine into the health of the crew, the cleanliness of the bedding and of the vessel ; and on such examination proving satisfactory, that the ship should proceed

to her destination without any limitation as to time ; yet subject to the examination of the health-officer of that port.

This measure, if adopted, would have repaid the ship-owners the expence incurred, and it is probable allayed those unpleasant feelings which were so generally entertained from the commencement of the quarantine restrictions, and removed all inducement for concealment as to the extent or continued prevalence of cholera.

The state of health on board the shipping in the river was an object of much importance, and to which my attention had been in some measure directed by a report in a newspaper of rather a sudden death on board of a foreign vessel, sometime before the cholera was stated to have occurred on shore, after which event, it was natural to suppose that the disease might have appeared amongst the sailors.

I therefore mentioned to Dr Clanny at the meeting held at my lodgings on the morning of Colonel Creagh's arrival, the necessity of immediately appointing a committee composed of officers of the customs, and one or two medical practitioners, to visit all the vessels in the Wear, and report on the state of health which prevailed on board. This measure was not adopted, and which may be attributed to the excitement which followed the partial restrictions on the commerce of the port, and the doctrine promulgated of the disease not being contagious.

In the early part of December, Dr Millar informed me, that he had that day lost a patient of cholera, after an illness of three days ; and that this person attributed his disorder to having assisted in removing the corpse of a woman who died of that disease, from on board ship into a boat.

In such an instance as that, I believe it is at present generally admitted, that the bedding in which the deceased lay, would on removal to shore at the destined port, or to another vessel (a circumstance of frequent occurrence) be the most likely means of propagating the disease, and against which no foresight could have guarded.

I have now faithfully detailed the circumstances connected with the occurrence and continued progress of cholera at the place where it first appeared in this country, and from which it ultimately extended over the British islands and to France ;

yet, afflicting as the result has been in these countries, the appearance of the disease amongst the emigrants destined for British America, and the spread of the pestilence in the cities of Quebec, Montreal, and the settlements along the banks of the St Lawrence after their arrival, must be considered as the most calamitous event connected with its introduction into England. It is perhaps unnecessary to refer to the hapless situation of millions of human beings in that country, living in savage independence, remote from the institutions of civilized life—the spread of cholera to a people so circumstanced, cannot be contemplated without awakening feelings of the utmost commiseration.

Judging from the course which the disease has pursued from the most remote parts of Asia to Britain, it is natural to conclude that it will continue to extend over the vast regions of the American continent, and from thence through commercial intercourse to the islands in the Pacific Ocean.

I consider it unnecessary to offer any observations on the medical history of cholera at Sunderland, in consequence of the subject having been amply discussed in the medical periodicals and pamphlets of the day, by numerous individuals who resided at, or repaired to that town. However, I deem it essential to refer to the reports of the early cases of the disease inserted in the Appendix, and on which the official information to London was founded. These reports, as well as some others transmitted shortly after, afford correct and unsophisticated statements of the disease on its first occurrence.

From the first case of cholera made known on the 23d October to the 9th November, thirty cases of the malignant form of the disease were admitted to have occurred, and reported by the practitioners of that town; twenty-six of which proved fatal. On the 10th November, the day after Dr Clanny officially declared to a numerous assembly at the Exchange, “that the disease was increasing, and its malignity not abated,” diarrhoea and common cholera were for the first time included in the returns of malignant cholera, and only *one* case of the latter form of the disease was reported on that day.

This incident I should consider as unworthy of notice, were it not that it led to mischievous opinions in regard to the real cha-

racter of the disease ; and was the source from whence many of the errors originated, as to the pathology and treatment of cholera on its extension to other places.

From the period that the disease first attracted attention in India, to its appearance on the shores of the Baltic, much valuable information had been published as to the symptoms and treatment of it by individuals of eminence in the profession ; yet, above all other sources of instruction, the reports of the medical Boards of Calcutta, Madras, and Bombay, were entitled to most attention, as embodying the most varied and extensive information that could be desired on a subject of such moment, and which had become familiar to the medical profession through the medium of the various publications that issued from the press, after the disease appeared in Europe.

Dr Daun and his colleague Dr Gibson, like many other Indian practitioners, were in direct opposition to the principle of cholera being infectious or contagious ; and in the treatment of that disease they were impressed with the belief of the beneficial effects of blood-letting ; and not only practised, but inculcated its paramount advantage in comparison with any other remedies. The opinion of these gentlemen officially employed on a disease new in this country, naturally had much influence with the medical profession in Sunderland ; and the practice recommended and extensively adopted was not fortunate ; yet was persevered in by many, until the disease had nearly ceased in that town.

Having been convinced from former experience that blood-letting was not a safe remedy in spasmodic cholera, I endeavoured, in as far as lay in my power, to advise its disuse, and more particularly at the medical *soirée* given by Dr Daun in compliment to M. Magendie and the other medical visitors early in December.

Entertaining the opinion that cholera on its immediate invasion was entirely a disorder of the nervous system, commencing in the central branches of the great ganglionic plexus, and that the stomach was the organ primarily affected.

From a state of perfect health and spirits, the whole system in a few minutes after the accession of cholera becomes depressed, and from which it too frequently never recovers ; for such

a rapid transition it is impossible to account, unless in referring it to the cause which I have assigned. In the sudden accession of the spasms affecting the muscular system, not excepting the heart and diaphragm, and the clearness of the intellectual powers to the latest moment of life, it closely resembles tetanus. It was, therefore, from this view of cholera, that I conceived blood-letting in that disease as irrational and injurious, and never in my mind was the Divine truth, "That the life of the flesh is in the blood," more visibly manifested than in this awful scourge.

These opinions I expressed at the meeting referred to, as well as to Drs Law and Ferguson of Dublin, and many of the other medical visitors at Sunderland.

Professor Delpech of Montpellier having been impressed with the belief of the central parts of the ganglionic nerve being the seat of disease in cholera, he repaired to this country some time after its occurrence to prosecute his inquiries, and, by careful anatomical investigation, to demonstrate the morbid appearance which he supposed that portion of the nervous system would present in those who became the victims of that disease. In the view taken by the French professor of the primary affection I had long concurred; yet, on his attempting to demonstrate the diseased or altered state of the nerves of the abdominal viscera, it was evident that he must fail in doing so, in consequence of the short period which usually elapsed between perfect health and a fatal termination; during which it is natural to suppose that no alteration in the healthy structure of the nerves could have taken place, and even, had the disease continued longer, I should doubt such an occurrence.

In support of this opinion, I refer to the *post mortem* examinations reported of innumerable cases of tetanus, originating idiopathically or from external injuries, in which not the slightest appearance of disease, or alteration of structure, in the nerves could be detected, although the disease had continued for many days.

In a moment of excitement, occasioned by commercial restrictions, when the disease which had recently appeared in Sunderland was declared to be "a common bowel complaint," it was difficult to imagine that the medical profession would countenance a belief that such a disease as malignant cholera had

any dependence on so mild a complaint as diarrhœa ; yet such an opinion did prevail, and through the medium of the daily papers and periodicals the public were familiarized to the occurrence of this “ invariable ” premonitory symptom of cholera morbus.

In referring to this subject at that time, I appealed to all the early cases of the disease which had been reported at Sunderland, and in which no such occurrence as diarrhœa had been noticed ; and at Dr Daun’s *soirée*, I mentioned that the hopeless and rapidly fatal cases of cholera I had formerly seen were unattended by any evacuation from the bowels or stomach, or spasms of the muscles, and in which the vital powers were paralyzed at the moment of becoming ill ; and in the frequent occurrence of this severe form of the disease Dr Daun concurred.

As cholera was confined to Sunderland and its immediate vicinity for some weeks before it extended its ravages into the neighbouring towns, much importance was attached to the reports of the medical profession assembled in that place, and which had no inconsiderable influence on the practice adopted in the treatment of the disease, on its appearance in different parts of the kingdom. From that circumstance, it is natural to suppose that injurious consequences must have arisen from the opinions so confidently promulgated on the causes, symptoms, and treatment of cholera, by individuals who had not previously an opportunity of witnessing that disease. In the delusive hope of professional distinction which this severe visitation seemed to have awakened, the recorded experience of the profession in India, and great cities on the continent which the pestilence had visited, was forgotten or disregarded ; and conclusions hastily formed from a limited experience were extensively circulated, of the salutary effects of remedies which have fortunately fallen into oblivion.

From personal recollection, as well as from the many well authenticated statements published of the successful exclusion of cholera from populous places, by prohibiting intercourse between those in health and the infected, I formed the determination of recommending to the officer in command of the troops at Sunderland, the closing of the barrack gates, and the detention of the troops in quarters.

The barracks are situated at the southern extremity of the High Street; on the east the sea and roadstead lie in front, and the extensive moor bordering on the sea is situated at the south; on the west the principal gateways, and the barrack wall, form one part of Warren Street; and on the opposite side, distant from thirty to forty yards, are situated houses from three to four stories high, occupied as lodging-houses, or by people in public business. On the north-east of the barrack wall, distant ten or twelve yards, are situated numerous neat and newly built cottages, each capable of containing one family, called "Pilot's Row." The situation of the barracks and houses surrounding it, is elevated at a considerable height above the level of the sea. The barracks are commodious, airy, and distant from the wall about forty feet, and afford ample accommodation to four hundred people, including the families of soldiers; and at the time the disease prevailed they were fully occupied.

On the 1st of November the existence of spasmodic cholera having been unanimously admitted, and officially reported to Government, on the following morning, at my request, the barrack gates were closed, and the entrance of strangers limited to those on urgent business. From that period to the 6th of November, only one case of the disease had been reported in town; however, on the latter day, many cases and deaths from cholera were reported to have occurred in Silver Street, in the vicinity of the barracks. I immediately recommended that the soldiers should be confined to quarters, and the women and children were subjected to the same restraint in three days after.

To procure the supplies necessarily required by four hundred individuals, the servants of officers, and a few men from each company in charge of confidential non-commissioned officers, were permitted into town, once each day. There fortunately did not exist any duty for soldiers outside the barracks,—the usual guard of which was increased, and at sunset a picket mounted, when the sentries were increased, and the men so employed relieved every hour, from the circumstance of cholera occurring more frequently during the night-time.

Independently of these precautionary measures, during the day, and frequently after tattoo, roll-calls were ordered, and each individual within the barracks was seen by me in the course of the day;

it was therefore evident, that all the practicable precautions which human prudence could dictate to avert the calamity had been adopted ; and to the prompt and zealous co-operation of Major, now Lieut.-Colonel, Hogarth, and Major Firman, his successor in the command, to every measure recommended, I felt deeply indebted.

The situation in which the inhabitants of the barracks were placed was unusual, and to soldiers, whose habit of life and profession are in opposition to apprehension, it was difficult to reconcile them to the necessity of the restraint which was imposed on them. In this instance, as affecting the reserve companies of the 82d Regiment, it was particularly so, from the majority of the men having been young soldiers, and enlisted within the preceding twelve months ; it was therefore natural to conclude, that individuals of this description had not patience to suffer, or to rest satisfied with the measures adopted for their safety. Under these circumstances, to enliven the dull tedium of the months of November, December, and January, amusements were encouraged and patronized by the officers ; the games of cricket, quoits, and foot-ball, were indulged in, and theatrical performances at night twice or thrice a-week. To vary the monotony of the scene, as well as to inspire a just confidence in the protecting power of Providence in a moment of peril, the soldiers were marched as usual to the church. The place of worship resorted to by the troops is a chapel of ease about thirty yards distant from the south barrack gate, and in which the military have ample and separate accommodation from the few civilians who generally attended. The indulgence thus conceded to the Protestants was naturally granted to the few soldiers who professed the Roman Catholic religion, and the men of that persuasion were conducted to the place of worship by the non-commissioned officers of their own religion. I have entered into a more minute detail of the sanitary restrictions which were adopted to insure the troops at Sunderland from a visitation of cholera, than might seem necessary, yet I have done so, in consequence of these arrangements having been impugned at the cessation of the disease in that town, when their salutary effects were indisputably established.

For the progress of cholera, I must refer to the former pages

of this work ; and although the disease existed in the vicinity of the barracks from its first occurrence, it did not actually appear in the houses immediately surrounding them, until early in December. In the row of cottages in the north-east of the barracks, called " Pilot's Row," many persons died of that disease ; and immediately after, cholera in its most intense and malignant form appeared in the families residing in the houses immediately opposite, and close to the principal entrance of the barracks, and the officers' quarters. The disease seemed to be confined to three or four families, all of whom in succession suffered severely ; and to the medical visitors, as well as the readers of the periodicals of the day, the state of disease in Warren Street is as yet familiar.

At this period of distress, the patience of all parties in the barracks was quite exhausted, yet they were convinced, from the continued exemption from the pestilence around them, of the beneficial effects which resulted from the quarantine established. Towards the latter part of December, cholera was less frequent in its occurrence in the town, and was reported to have ceased in the families surrounding the barracks. However, on Christmas day, a man named Ellemorc, residing in Warren Street, died of the disease, and his wife in two days after ; the latter person I visited at the request of a medical friend, a few hours before her death. We found the room comfortable, and the utmost attention paid to ventilation and cleanliness ; and on his inquiring after the fluids discharged from the stomach and bowels, the attendants stated that they were immediately removed, and deposited in the gutter of the public street. The illness and death of the husband of this woman is fully illustrative of the evil I formerly referred to. The man was taken ill at an early hour in the morning ; the medical person employed to attend on the members of the society to which this patient belonged could not attend, in consequence of other engagements ; at one or two o'clock in the day, another medical man visited, and the patient died that evening. After ascertaining the circumstances of the noxious fluids discharged from patients ill with cholera being immediately removed to the public street, and that a similar practice had been followed in regard to the other people who had been ill or died of the disease in Warren Street, I imme-

diately addressed a letter to the officer in command, to request his calling the attention of the Board of Health to the existence of this nuisance, and the danger likely to ensue to the troops, as well as the inhabitants, from such a practice. It had been repeatedly, and in a great measure correctly, stated, that cholera would not commit the ravages in this country that had followed its course in milder climates ; and to the heavy and foggy atmosphere of November and December on the north-east coast of England, may be attributed the escape of many from a pestilence, to the source of which they were unconsciously exposed.

On Christmas day, the long interval of seven weeks had elapsed from the period at which the soldiers and their families were confined to barracks, and during that time they enjoyed good health, and remained free from that disease, which destroyed many within a few yards of their quarters, thus affording an irresistible proof of the salutary effects of the measures adopted. From the favourable reports published of the state of health in Sunderland at that period, the utmost impatience was manifested by the soldiers at the continued restraint imposed on them, and after the festivities of Christmas day, many of them contrived to go over the wall into town ; however, the major part returned in the course of the evening, and all of them by the following morning.

In mentioning this circumstance, I cannot refrain from expressing my regret at an occurrence, the impropriety of which was in a great measure effaced by their former forbearance amidst so many privations ; yet this transgression could not, in my opinion, impugn the advantages which the former state of seclusion had afforded ; as it will appear on a reference to the official return of cholera published at the council-office, that on that day, as well as before and immediately after, but very few cases of cholera were reported in Sunderland and its suburbs.*

The disease, however, continued to linger, a case of it occasionally recurring, and not until the first of February was the town declared free from it, on which day the barrack gates were

* Remained 22d Dec. 6 cases.
23d Dec. 7 do.
24th Dec. 8 do.

Remained 25th Dec. 9 cases.
26th Dec. 6 do.
27th Dec. 7 do.

opened, and, after an interruption of three months, the intercourse of the military with the inhabitants was re-established.

In the relation of the principal transactions connected with an event which will form an epoch in the medical history of this country, I have been solely influenced by the wish of detailing with fidelity, all the circumstances which preceded and accompanied its progress at Sunderland, until it had extended into the neighbouring towns.

From the active, and, I should hope, disinterested part, which fortuitous circumstances imposed on me at the commencement of this national calamity, I consider it imperative to state, that I was not actuated by officious zeal, or a desire to interfere in the transactions of the Board of Health of Sunderland. I was at the military hospital in the performance of my duties, when Dr Browne, formerly an army surgeon, and for some years past, the leading physician in Sunderland and the neighbouring districts, called on me, and requested my accompanying him to the Exchange, where many of the principal inhabitants and members of the medical profession were assembled, to deliberate on measures suited to the crisis which had occurred. I immediately acceded to Dr Browne's request, and, as I have stated at the commencement of this work, was invited to become an honorary member of the medical department of the Board of Health. From this period my attendance at the meetings of the general or medical department of the Board was at the written or verbal request of Dr Clanny; with these two gentlemen, I had the good fortune to form an intimacy soon after my arrival at Sunderland, and on the present occasion, I cannot omit mentioning the devoted zeal and anxiety displayed by Dr Clanny, for the adoption of measures calculated to prevent the introduction of the disease, as well as to arrest its spread when it had occurred.

To Dr Browne, my obligations are of a deep and personal nature, as, during my sojourn of more than twelve months at that station, I often availed myself of his advice and extensive experience, in many serious cases of disease which had occurred in the corps; and, notwithstanding our opposite views of the causes on which the origin of cholera depended, I congratulated myself on maintaining his intimacy and favourable opinion, to the moment of my leaving Sunderland.

The panic which had seized all classes of people, in respect

to the probable introduction of cholera into this country, is too recent to be forgotten. In that state of excitement, the disease appeared, and in reporting its occurrence to the Government and Board of Health in London, I was fully impressed with the responsibility I voluntarily imposed on myself. In the performance of that duty, I could not have been influenced by any unfriendly feeling towards the inhabitants, or interests of a great commercial town in which I was accidentally quartered; yet I had to regret, that it entailed on me (with the exception of a few of the principal families) the displeasure of a society whom I had not intentionally offended. However painful such a circumstance must have been to me, for the service I had performed on an occasion affecting the interests of the community at large, I had the consolation of having formed a correct opinion of the disease, and in acting with a decision and promptitude suited to the occasion.

At the period when the transactions occurred, the history of which I have now concluded, it will not, I hope, be considered irrelevant to the subject, to mention, that I had then passed an uninterrupted service of twenty-eight years in the army, eleven of which had been at the Mauritius, as Regimental Surgeon and Acting Staff-Surgeon, where I had ample opportunity of witnessing spasmodic cholera; and take leave to annex the following general order, issued by Sir Charles Colville, referring to my services in that island.

“ Head Quarters Reduit,

“ GENERAL ORDER. *Mauritius, March 20, 1830.*

“ His Excellency the Commander in Chief is pleased to grant eighteen months leave of absence, to James Butler Kell, Esq. surgeon 82d Regiment, to return to Europe, at the recommendation of a Medical Board.

“ In granting the above leave of absence to Mr Kell, his Excellency the Commander in Chief feels, that, in hoping for a speedy amendment in the health of that officer, he but expresses the wishes of all those who have had the advantage of his skill and attention, during a lengthened service in this command, not only as a regimental surgeon, but while performing the more important functions of a principal medical officer.

(Signed) “ GUY L'ESTRANGE, Col.
Deputy-Adjutant General.”

APPENDIX.

APPENDIX.

No. I.

“ WILLIAM REX.—Whereas alarming accounts have been received that a malignant and infectious disease has spread and extended itself to parts of the coasts of the Baltic, and to other places ; and whereas we feel it to be incumbent upon us to employ such means as, under the protection and favour of *Divine Providence*, may be best calculated to guard our loving subjects against the visitation of so dreadful a calamity, we have thought fit, by and with the advice of our Privy-Council, to issue this our royal proclamation ; and we do herein, by, and with the advice of our said Council, most strictly enjoin and command all our loving subjects, and more especially those residing at any of the sea-port towns, or in any other places on the coast of this kingdom, whether they may themselves be liable to quarantine or otherwise, as they tender the preservation of their own lives, and the safety and welfare of all the inhabitants of this kingdom, most scrupulously to observe all the laws of quarantine which now or hereafter may be in force, and all orders, made by us with the advice of our Privy-Council, or by our Privy-Council under the authority thereof, and particularly, most carefully to avoid any communication with any ship or vessel, or with any person or persons coming therein from the Baltic, or from any place to which by our royal proclamation, by and with the advice of our Privy-Council, or by our orders in Council, the laws of quarantine are or may hereafter be extended, or with any boat or person therein coming from, or having been on board any ship, until such ship, vessel, or boat,

with the crews and persons on board, and the goods, wares, and merchandise imported therein, shall have performed their quarantine in such places and manner as are, or shall hereafter, be directed in that behalf, and until they respectively shall have been duly discharged therefrom ; and we do further strictly exhort, enjoin, and command all magistrates and persons in authority, and all our loving subjects, without loss of time, to give information to us, through our Principal Secretary of State for the Home Department, or to our Privy-Council, of any person that they may know or believe to have offended against any of the said laws or orders ; and we do hereby warn all persons whom it may concern, that we have given the strictest order for enforcing with the utmost rigour the most punctual observance of the laws of quarantine, and all the orders, rules, and regulations relating thereto, it being our firm determination, upon serious consideration of the great extent of misery and calamity which a single instance of improvidentially neglecting any of these regulations may bring upon our loving subjects, to cause the severest penalties which the law has provided, or may provide, to be inflicted upon all those who may be guilty of any offence against the same ; and whereas it is also necessary to take the utmost precaution to prevent the spreading of infection, in case the said malignant disease (which God in his mercy avert) should unhappily manifest itself in any part of our United Kingdom, notwithstanding the precaution taken to guard against the introduction thereof, we have thought fit, and with the advice of our said Council, to take measures for the establishment of a Board of Health, to consist of men able, learned, eminent, and experienced in the study and practice of medicine, together with persons most capable, from the knowledge of the ports of our kingdom, to afford assistance in the forming of regulations respectively applicable to the local circumstances of the said ports, such Board to be authorized and directed to prepare and digest the best rules and regulations for the speedy and effectual adoption of the most approved method of guarding against the introduction and spreading of infection, and for purifying any ship, or house, or any place in which any contagious disorder may have manifested itself, and to communicate the same to all magistrates, medical persons, and others of our loving subjects who may be desirous, and may apply to be made acquainted therewith ; and we most strictly enjoin and command all magistrates, and persons in authority, all medical persons, and others our loving subjects, *especially those within the maritime counties, to give immediate notice to us, through our Principal Secretary of State for the Home De-*

partment, or our Privy-Council, in case any person or persons should be attacked with any disease attended with *new* and *uncommon* symptoms, such as to afford ground for apprehension that such disease is of the same nature as the disorder called *Cholera Morbus*, prevailing in several parts of Russia, and elsewhere, in order that the most immediate and effectual measures may be taken, as well for affording due and necessary assistance and relief to those afflicted with the same, as for preventing the contagion from spreading amongst our loving subjects.—Given at our Court of St James's, the twentieth day of June one thousand, eight hundred and thirty-one, and in the first year of our reign. God save the King.”

No. II.

“ *Council Office, Whitehall, June 21.*—His Majesty has been pleased to establish a Board of Health, to prepare and digest rules and regulations for the most speedy and effectual mode of guarding against the introduction and spreading of infection, and for purifying any ship or house in case any contagious disorder should unhappily manifest itself in any part of the United Kingdom, notwithstanding the precautions taken to guard against the introduction thereof, and to communicate the same to all magistrates, medical persons, and others, his Majesty's subjects, who may be desirous, and may apply to be made acquainted therewith.

“ The said Board hold their meeting at the Royal College of Physicians, and is composed of the following persons, viz. Sir Henry Hallford, President of the Royal College of Physicians, President ; Dr Holland, Dr Maton, Dr Turner, Dr Warren, Dr Macmichael, Fellows of the Royal College of Physicians ; Sir T. Byam Martin, Comptroller of his Majesty's Navy ; Honourable Edwart Stewart, Deputy-Chairman of Board of Customs ; Sir James M'Grigor, Director-General of Army Hospitals ; Sir William Burnet, Commissioner of Victualling Office ; Sir William Pym, Superintendent-General of Quarantine ; Dr Seymour, Fellow of the Royal College of Physicians, to be Secretary to the said Board.”

No. III.

“ ORDER IN COUNCIL.

“ At the Council-Chamber, Whitehall, the 20th of October 1831, by a Committee of the Lords of his Majesty's most Honourable Privy-Council,—Their Lordships this day took into consideration certain rules and regulations proposed by the Board of Health for the purpose of preventing the introduction and spreading of the dis-

ease called Cholera Morbus in the United Kingdom, together with an account of the symptoms and treatment of the said disease ; and were pleased to order that the same be printed and published in the Gazette, and circulated in all the principal ports, creeks, and other stations of the said United Kingdom, with a view that all persons may be made acquainted therewith, and conform themselves thereto.

“ W. L. BATHURST.

“ The measures of external precaution for preventing the introduction of cholera morbus by a rigorous quarantine have hitherto been found effectual ; but as the disease approaches the neighbouring shores, not only is the necessity of increased vigilance more apparent, but it is also consistent with common prudence that the country should be prepared to meet the possible contingency of so great a calamity. The intention of the following observations, therefore, is to submit to the public such suggestions as it appears to the Board of Health should either be immediately acted upon, or so far carried into operation, as that, in any case, the country should not be found uninformed as to the best means of providing for its internal protection.

“ To prevent the introduction of the disorder, not only the most active co-operation of the local authorities along the coast in the measures of the Government, but likewise the exercise of the utmost caution by all the inhabitants of such parts of the country, become indispensably necessary. The quarantine regulations established by the Government are sufficient, it is confidently hoped, to prevent the disorder from being communicated through any intercourse with the continent in the regular channel of trade or passage ; but they cannot guard against its introduction by means of the secret and surreptitious intercourse which is known to exist between the coast of England and the opposite shores. By such means this fatal disorder, in spite of all quarantine regulations, and of the utmost vigilance on the part of the Government, might be introduced into the United Kingdom ; and as it is clear that this danger can only be obviated by the most strenuous efforts on the part of all persons of any influence to put a stop to such practices, their utmost exertions should be used to effect this end. The magistrates, the clergy, and all persons resident on the coast, it is hoped, will endeavour to impress upon the population of their different districts (and particularly of the retired villages along the sea shore,) the danger to which they expose themselves by engaging in illicit intercourse with persons coming from the continent ; and should appeal to their fears

in warning them of the imminent risk which they incur by holding any communication with smugglers, and others who may evade the quarantine regulations.

“ To meet the other objects adverted to in the introduction,—namely, to prepare for the possible contingency of the country being visited by this disorder, as well as to assist in its prevention, it is recommended, that in every town and village, commencing with those on the coast, there should be established a Local Board of Health, to consist of the chief and other magistrates, the clergyman of the parish, two or more physicians or medical practitioners, and three or more of the principal inhabitants ; and one of the medical members should be appointed to correspond with the Board of Health in London. Every large town should be divided into districts, having a district committee of two or three members, one of whom should be of the medical profession, to watch over its health, and to give the earliest information to the Board of Health in the town, whose instructions they will carry into effect. As the most effectual means of preventing the spreading of any pestilence has always been found to be the immediate separation of the sick from the healthy, it is of the utmost importance that the very first cases of cholera which may appear should be made known as early as possible. Concealment of the sick would not only endanger the safety of the public, but (as success in the treatment of the cholera has been found mainly to depend on medical assistance having been given in the earliest stage of the disease,) would likewise deprive the patient of his best chance of recovery. To carry into effect the separation of the sick from the healthy, it would be very expedient that one or more houses should be kept in view in each town or its neighbourhood, as places to which every case of the disease, as soon as detected, might be removed, provided the family of the affected person consent to such removal ; and in case of refusal, a conspicuous mark (‘ *Sick*’) should be placed in front of the house, to warn persons that it is in quarantine ; and, even when persons with the disease shall have been removed, and the house shall have been purified, the word (‘ *Caution*’) should be substituted, as denoting suspicion of the disease ; and the inhabitants of such house should not be at liberty to move out or communicate with other persons until, by the authority of the Local Board, the mark shall have been removed.

“ In some towns it may be found possible to appropriate a public hospital to this purpose ; or, should any barrack exist in the neighbourhood, it might, under the authority of the commander of the

forces, be similarly applied. Wherever it may be allowed to remove the sick from their own habitations to the previously selected and detached buildings, the houses from which they have been so removed, as well as the houses in which the sick have chosen to remain, should be thoroughly purified in the following manner : Decayed articles, such as rags, cordage, papers, old clothes, hangings, should be burnt, filth of every description removed ; clothing and furniture should be submitted to copious affusions of water, and boiled in a strong ley ; drains and privies thoroughly cleansed by streams of water and chloride of lime ; ablution of wood-work should be performed by a strong ley of soap and water ; the walls of the house, from the cellar to the garret, should be hot lime-washed ; all loose and decayed pieces of plastering should be removed. Free and continued admission of fresh air to all parts of the house and furniture should be enjoined for at least a week.

“ It is impossible to impress too strongly the necessity of extreme cleanliness and free ventilation ; they are points of the very greatest importance, whether in the houses of the sick, or generally as a measure of precaution. It is recommended, that those who may fall victims to this formidable disease, should be buried in a detached ground in the vicinity of the house that may have been selected for the reception of cholera patients. By this regulation it is intended to confine as much as possible every source of infection to one spot ; on the same principle, all persons who may be employed in the removal of the sick from their own houses, as well as all those who may attend upon cholera patients in the capacity of nurses, should live apart from the rest of the community. It should here be observed, that the fewer the number of persons employed in those duties the better, as then the chance of spreading the infection by these means will be diminished. Wherever objections arise to the removal of the sick from the healthy, or other causes exist to render such a step not advisable, the same prospect of success in destroying the seeds of the pestilence cannot be expected. Much, however, may be done even in these difficult circumstances by following the same principles of prudence, and by avoiding all unnecessary communication with the public out of doors. All articles of food, or other necessaries required by the family, should be placed in front of the house, and received by one of the inhabitants of the house after the person delivering them shall have retired.

“ Until the time during which the contagion of cholera lies dormant in the human frame has been more accurately ascertained, it will be necessary, for the sake of perfect security, that convalescents

from the disease, and those who have had any communication with them, should be kept under observation for a period of not less than twenty days. The occupiers of each house where the disease may occur, or be supposed to have occurred, are enjoined to report the fact immediately to the Local Board of Health in the town where they reside, in order that the professional member of such board may immediately visit, report, and, if permitted to do so, cause the patient to be removed to the place allotted for the sick. In every town, the name and residence of each of the members of the district committee should be fixed on the doors of the church, or other conspicuous place. All intercourse with any infected town and the neighbouring country must be prevented by the best means within the power of the magistrates, who will have to make regulations for the supply of provisions; such regulations, however, are intended only for extreme cases, and the difficulty of carrying such a plan into effect on any extended scale will undoubtedly be great; but, as a precaution of great importance, it is most essential that it should be an object of consideration, in order to guard against the spreading of infection. Other measures of a more coercive nature may be rendered expedient for the common safety, if, unfortunately, so fatal a disease should ever show itself in this country in the terrific way in which it has appeared in various parts of Europe; and it may become necessary to draw troops or a strong body of police around infected places, so as utterly to exclude the inhabitants from all intercourse with the country; and we feel sure what is demanded for the common safety of the state, will always be acquiesced in with a willing submission to the necessity which imposes it. The Board particularly invites attention to a fact confirmed by all the communications received from abroad, viz. that the poor, ill-fed, and unhealthy part of the population, and especially those who have been addicted to drinking spirituous liquors, and indulgence in irregular habits, have been the greatest sufferers from this disease; and that the infection has been most virulent, and has spread more rapidly and extensively in the districts of towns where the streets are narrow and the population crowded, and where little or no attention has been paid to cleanliness and ventilation. They are aware of the difficulties of removing the evils referred to, but they trust the attention thus awakened will insure the most active endeavours of all magistrates, resident clergymen, and persons of influence or authority, to promote their mitigation; and as the amount of danger and the necessity of precaution may become the more apparent, they will look with increased confidence to the individual exertions of

those who may be enabled to employ them beneficially in furtherance of the suggestions above stated.—In the name of the Board,
 “ HENRY HALFORD, *President*.”

NO. IV.

“ SANATORY REGULATIONS.

“ 1st. That in each of the sea-port towns on the eastern coast of this island, there be immediately appointed a medical officer on the half-pay of the King’s naval or military service, or the East India Company’s, who is acquainted with the symptoms and treatment of cholera. This officer should, in addition to the resident practitioners, form one of the members of the Board of Health.*

“ 2d. That the Board of Health should assemble each day to receive reports and form arrangements for any immediate and pressing occasion, and be invested with the most ample powers which the law will admit, to act with rigour when required.

“ 3d. That the medical members of the Board of Health should at all times be at liberty, and held responsible to visit the public institutions for the reception of cholera patients, and to report to the Local Board, as well as the General Board in London, their opinion as to the treatment of the sick and the management of such hospitals.

“ 4th. As it is a well established fact, that the chief success in the treatment of spasmodic cholera depends on the early assistance of medical art, that in different parts of each town houses should be opened for the immediate reception of patients ill with this disease. At each of these establishments there should be some mode of conveyance for the sick from their homes, and a light machine, like the dhoolies† used in India for a similar purpose, would, in my opinion, be the best, as affording more comfort to the afflicted, and a greater chance of security from infection to those employed as bearers.

“ 5th. The rigid observance of quarantine on ships arriving from ports where cholera prevails must be considered the chief and most

* In recommending the employment of medical officers on half-pay, it is obvious that I had no wish to interfere in the transactions of the Board of Health of Sunderland; and the employment of medical officers in such cases could alone have been justified by their experience in a disease which the resident practitioners were unacquainted with. In how far such a principle was adhered to, on an occasion in which it was imperative to conciliate the civil practitioners of the places infected with cholera, it is not for me to explain.

† A Dhooly is a species of palanquin, the frame of which is composed of light wood, and covered with painted canvass. It affords perfect security against wet or cold, and is easily carried on the shoulders of two or four men.

effectual guard against the introduction of that dreadful scourge, I respectfully recommend that in each of the sea-ports of this kingdom, and more especially on the eastern coast. * That a medical officer on the half-pay of the King's naval or military service, or East India Company's, who is practically acquainted with spasmodic cholera, be appointed to act as health-officer, to visit and report on all ships arriving at the port where he is stationed, and as frequently as possible to visit and report to the local authorities on the health of the crews of all vessels in harbour. † The officer so appointed should not be engaged in private practice, nor connected with the interests or commerce of the place in which he is stationed.

“ 6th. In cholera, life is often destroyed in an incredible short period, so as to resemble the most fatal attacks of apoplexy ; much attention, therefore, is required in having a coroner's inquest on the body as soon as possible, and the selection of a medical practitioner for that duty is an object of much importance.

“ 7th. In every application for interment in church-yards throughout the empire, a certificate from the medical practitioner who attended the deceased, should accompany such application, stating the nature and duration of the disease. This certificate should be forwarded by the clergyman to the Local Board of Health ; and, if faithfully drawn up, would serve as an easy and correct mode of information as to the continued prevalence and fatality of cholera morbus.

“ In explanation for my having recommended the appointment of medical officers of the army, navy, or India Company's service, I have to state, that, independently of the moral obligation imposed on them of acting correctly, that of military duty and obedience is added.

“ SUNDERLAND,

“ November 2, 1831.

J. B. KELL,

“ Surgeon, 82d Regiment.”

“ Sir J. M'GRIGOR, Bart., &c.”

No. V.

“ PROCLAMATION.

“ WILLIAM REX.—At the Council Chamber, Whitehall, the 4th

* I confined my observations to precautionary measures, in respect to shipping from Sunderland, as well as from ports in the Baltic, from a belief that sanatory restrictions would have been immediately adopted by land.

† If such an appointment as above recommended had taken place at most of the great commercial ports, and the duty conscientiously performed, it is probable that the appalling mortality which occurred on board many of the ships laden with emi-

November 1831, by a committee of the Lords of his Majesty's most Honourable Privy-Council.—Whereas it hath been made to appear to the Lords and others of his Majesty's Privy-Council, upon credible information, that the disease called the Indian cholera hath appeared within the town of Sunderland, in the county of Durham; and whereas by an act of Parliament, passed in the sixth year of the reign of his late Majesty King George the Fourth, entitled

“ An act to repeal the several laws relative to the performance of quarantine, and to make provisions in lieu thereof.

“ And whereas, in order to prevent as much as possible the spreading of the said disease in other places, it is desirable that all practicable precautions should be adopted, the Lords and others of his Majesty's Privy-Council do hereby, in virtue of the powers in them by said act of Parliament vested, and of all other powers and authorities enabling them in that behalf, order and direct, that until further order shall be made by the authority aforesaid, all magistrates, justices of the peace, head boroughs, constables, and others of his Majesty's officers, civil and military, and all within the said town of Sunderland, carry into execution and enforce all such orders and regulations as shall and may from time to time be promulgated by the mayor or other magistrates of the said town, at the suggestion and advice of the Board at present constituted, or of any Board which may be constituted for the preservation of the health of the inhabitants of the said town.

“ And to prevent as far as possible the extension of the said disease beyond the limits of the said town, it is hereby further ordered, that from henceforth, and until further orders shall be issued in that behalf, all sheriffs and deputy-lieutenants, and all such magistrates, justices of the peace, head boroughs, constables, and other his Majesty's officers, civil and military, as aforesaid, shall, beyond the limits of the said town of Sunderland, carry into execution and enforce all such orders and regulations as shall and may from time to time be promulgated for the prevention of the spreading of the said disorder by the lord-lieutenant, or by the *custos rotulorum* of the county of Durham, or of any adjacent county, and in the absence of such lord-lieutenant or *custos rotulorum*, by any two or more deputy-lieutenants of any such county.

“ And the Lords and others of his Majesty's Privy-Council do hereby declare, that this present order shall be a full and sufficient

grants to America might have been averted, as well as the propagation of the disease to that continent.

warrant to all persons acting in furtherance or execution hereof, or of any such orders and regulations aforesaid.

“ And the Lords and others of his Majesty’s Privy-Council do hereby charge, command, and require all his Majesty’s subjects, and all people inhabiting this realm, to be, to the utmost of their respective abilities, aiding and assisting in enforcing obedience to this present order, and in restraining all persons who shall be found violating, or attempting to violate the same ; and the Lords and others of his Majesty’s Privy-Council do hereby warn and admonish all persons, that in case of any disobedience to, or attempt to evade this present order, they will incur all the pains and penalties to which such offenders are liable by virtue of the said act of Parliament, or otherwise.

(Signed) “ W. L. BATHURST.”

No. VI.

REPORTS of Cases of Epidemic Spasmodic Cholera which occurred at Sunderland, and on which was founded the official information to Government of the prevalence of that Disease.

CASE 1.—William Sproat, a keelman, aged sixty, had been reported ill on Wednesday morning, October 19th. On Thursday evening, 20th October, he was visited by Mr Holmes, who found him affected with vomiting and purging, but without a symptom of collapse. Saturday, 22d, he was considered convalescent, and went out for about twenty minutes ; and on his return home he was taken very ill ; had a severe shivering fit, with giddiness ; cramp at the stomach, and violent vomiting and purging.—“ Sunday, October 23d, seven o’clock A. M., I found him evidently sinking, pulse almost imperceptible, and extremities cold, skin dry, eyes sunk, lips blue, features shrunk ; he spoke in whispers ; violent vomiting and purging ; cramps of the calves of the legs, and complete prostration of strength. At this time the tongue was moist and warm ; but it shortly afterwards became dry, brown, and cold ; the urine was suppressed. I had not an opportunity of examining the stools ; but they were described to me as like meat-washings, and horribly offensive. October 24th, he was quite collapsed, with aggravation of all the symptoms except vomiting, which had entirely ceased. Died on Wednesday morning, October 26th.

“ II. HOLMES, *Surgeon.*”

Note.—I have given an extract of this case from the day on which

I visited Sproat, in company with Dr Clanny. The original report was inserted in the Medical Gazette.—AUTHOR.

CASE 2.—“ On the 27th of October 1831, accompanied by Mr Kell, I visited, by his request, William Sproat, son of William Sproat Senior, deceased. We found him in a low damp cellar, near the Fish Quay, close to the river, and also to his late father's residence. He had been only a few hours indisposed from this disease. The attack commenced with vomiting of a copious fluid, tinged with blood. He had been severely purged, and the quantity of rice-like water which he passed was immense. The surface of the body was cold, and the countenance collapsed; his eyes were sunk in his head; he was dejected in spirits; he passed little or no urine; pulse 90, and weak; voice subdued; and though he got up from his bed to receive us, he appeared greatly exhausted by the effort, and we desired him to return to his bed. Situated as he was, I considered it indispensable to have him sent to our Infirmary, where, by rotation, he became the patient of my colleague, Dr Miller, who bestowed much attention upon him.”—*Dr Clanny's Work on Cholera.*

“ William Sproat was admitted into the Infirmary on the evening of the 27th of October, in the following state:—The extremities cold as marble; pulse just perceptible at one wrist; countenance extremely shrunk, so much so, that the integuments of the face appeared as if drawn tightly over the bones; the eyes had retired to the bottom of their sockets, and were surrounded by a dark-blue circle; the lower part of the eyeball extremely injected, whilst the upper part was completely blanched; his voice was alternately hoarse and whispering. There were present continued nausea and jactitation; frequent vomiting and purging of a serous fluid, in which were floating little threads of fibrin; also cramps in the arms and legs. A vein was freely opened, and four ounces of thick black blood extracted, which, on being left at rest, appeared like jelly, no serum being separated. He was put into a warm bath, the temperature of which was raised to 126°. Ten minutes after his leaving the bath, I found him, if possible, colder than before, without pulse at either wrist. Brandy and opium were ordered him, and hot substances applied to different parts of the body. From this time he gradually rallied; and on the following day his skin was warm, the pulse perceptible, though still extremely weak, the vomiting and purging, also the cramps, had entirely ceased. On the 29th, the extremities had become cold, and his pulse scarcely perceptible. His

countenance put on the appearance of that of a drunken man. He could with difficulty be kept in bed, and was continually muttering to himself; and, on being roused, he replied that he had no pain anywhere. On the 30th, he still presented that kind of drunken debauch; was extremely restless, and continually biting the bed-clothes, or any other object near him. On the 31st he fell into a state of coma, with stertorous breathing; and on the afternoon of the same day he died.

“*Sunderland Infirmary,*
“*November 2, 1831.*”

J. M. PENMAN,
House-Surgeon.”

CASE 3.—“*Eliza Turnbull, a strong healthy woman, and one of the nurses of the Infirmary, was taken ill about one o’clock on the morning of the 1st of November, between four and five A. M. I was called, at which time I found her affected with the following symptoms: Violent vomiting and purging of a watery fluid, similar in appearance to oat-meal gruel; excruciating spasms in the arms and legs, especially in the former; pulse only perceptible at one wrist; voice puerile; tongue cold; extremities cold, and of a livid hue; fingers and toes much shrunk; intellect perfectly clear; complaining of pain in the region of the stomach, and calling for cold water. A vein was opened in each arm, from which flowed only a few drops of blood, like treacle; external and internal stimulants, with opium, were freely used, without effect. About ten A. M. the cramps had nearly ceased; the skin became universally cold as marble, and, at the epigastrium, of a deep purple hue; from this time till two P. M. (the period of her death) the only symptoms of life were a little heaving at the chest, and the rational answer of any thing that was proposed to her.*”

“*It may be necessary to state, that she had no other communication with any person labouring under cholera, than in assisting, the preceding evening, to remove from the fever-house to the dead-house the body of a person named Sproat, who had just died of that disease.*”

“*Sunderland Infirmary.*” J. M. PENMAN, *House-Surgeon.*”

CASE 4.—“*Thomas Wilson, keelman, aged 51, a man of regular habits, was attacked on the morning of the 31st of October, about four o’clock, with vomiting of a fluid resembling rice-water, and copious dejections of a similar fluid, accompanied with severe abdominal pains, and spasms of the extremities. Mr Cook, surgeon, was called for at six o’clock, and immediately gave him, by spoonsful*

every half hour, a six ounce mixture, containing two drachms of the carbonate of ammonia, and one drachm of laudanum. He was first put into a warm bath. At seven o'clock I was called to visit him; pulse at this time not distinguishable at the wrists; skin over the surface of the body cold as death; lips blue; eyes dim, and sunk in the head; did not vomit; complained of intense pain in the epigastrium and abdomen, with cramps of the extremities; had one dejection resembling rice-water, or of milk largely diluted with water, of a peculiar sickening and highly offensive smell, something like putrid animal matter; extreme restlessness; moaning and sighing; speaks in a whisper; intellect clear and perfect; tongue moist and cold; respiration slow; eyelids half open; urine suppressed; hot bottles applied to the feet, with assiduously rubbing; one drachm of tincture of opium, and twelve grains of calomel, were instantly given; mustard plasters were applied over the whole surface of the abdomen, and to the legs and feet; warm brandy and water were given frequently; the mixture with ammonia continued; the spasms ceased about nine o'clock; no vomiting or purging; there appeared a total loss of power of the nervous and circulating systems, and it appeared evident that the man must die. I left him, and saw him again at twelve o'clock; had the appearance of a *living corpse*; eyes deeply sunk in their sockets; hand and fingers remarkably shrivelled, very much reduced in size, of a light blue tinge. He gradually got worse, and expired at three o'clock in the afternoon, having lived exactly eleven hours after the attack.

“JOHN MILLER, M. D.”

Note.—Wilson was a robust man, and in perfect health to the moment of his becoming ill that morning. He and his wife lived in comfortable lodgings in the open part of the High Street, and it was stated to me that both of them were of exemplary moral character, and twice at the Methodist chapel on the previous day (Sunday).—
AUTHOR.

CASE 5.—“Robert Rodenbury, aged 35, Monkwearmouth. shore. The subject of this report was an industrious shoemaker, of temperate habits, living in a wretched hovel with a large family; he had been for some time liable to ‘stomach complaints.’ On Sunday, the 30th October, he dined and supped on pork, drank no fermented liquor, and went to bed well.

“At midnight he was attacked with vomiting and purging of a fluid resembling water-gruel, which filled several chamber pots; violent

cramps of the whole body, affecting the different fingers and toes successively; his voice was quickly reduced to a whisper; nails blue; skin livid, and covered with a cold sweat; pulse at the wrist imperceptible; he was visited by an irregular practitioner, who administered brandy, æther, and laudanum. At nine A. M. on Monday, the spasms had ceased, and the only complaint he made was of pain in the region of the heart; his mental faculties remained quite perfect till twelve o'clock, when, being at his own request raised up, he instantly expired; his attendants believe that he did not pass any urine.

“ WILLIAM HAZELWOOD, M. D.

“ T. R. TORBOCK, Surgeon.”

No. VII.

“ *To the Editor of the Times.*

“ SIR,

12th November 1831.

“ In the comments upon the conduct of the Board of Customs with respect to the introduction of cholera into Sunderland, which have appeared in your Journal of this day, you appear to be under misapprehension. You assume that regulations for the safety of the public health emanate from the Board of Customs,—that some precaution had been neglected,—and that the ‘infected ship’ has been admitted in consequence of something having been done which ought to have been forbidden, or to have been guarded against by the foresight of the Board of Customs. It is therefore my duty, for the information of the public, to deny in the most unqualified manner the facts which you state to have been ‘hitherto uncontradicted.’ No infected ship has ever entered the port of Sunderland at all, nor have any vessels whatever from the Elbe been suffered to enter Sunderland except such as arrived with clean bills of health, and whose crews, on examination by a medical practitioner, were in good health.* No regulation has, therefore, been broken, nor has any-

* The short period which in general intervened between the sailing of vessels from Hamburgh and ports in the south of the Baltic and their arrival in Sunderland, afforded no security against the occurrence of cholera in the persons of those who were exposed to the infection; it was, however, from articles of clothing and bedding that most danger was to be apprehended.

In illustration of this opinion, I refer to the case of the wife of a physician who attended cholera patients at the Infirmary on the 1st November, and at the dissection of Rodenbury, who died of the disease on the same day, having been affected with cholera on the 6th; and of a surgeon who assisted at the same dissection, being likewise affected with the disease on that day.

In my opinion, the chief source of error in the system adopted at Sunderland, arose

thing been done which could have been guarded against by any foresight on the part of the Board of Customs, in carrying into effect the orders of the Lords of the Council.—I am, &c.

“ J. WHITMORE,
“ *Sec. Board of Customs.*”

No. VIII.

RETURN of Cholera at Sunderland, as copied from the Official Reports transmitted to London.

Total number of cases of cholera, mild and malignant, from the			
23d October to 31st December 1831,	-	-	418
Died during that period,	-	-	202
Total number of cases of diarrhœa from the 10th to the			
21st November,	-	-	112
Died,	-	-	3

Note.—Diarrhœa was first included in the cholera reports, on the day before the meeting of the inhabitants and medical practitioners at the Exchange on the 11th November, and ceased to be reported on the 22d of that month.—AUTHOR.

No. IX.

RETURN of the number of burials in the parish of Sunderland, in the months of November and December in the following years, viz. :—

		November.		December.
1828,	-	27	-	34
1829,	- -	29	- -	44
1830,	-	39	-	76
1831,	- -	122	- -	127 up to 31st Dec.

from a want of experience in those connected with the quarantine department; and it will be evident to the Board of Customs, that ships from suspicious or infected ports should have anchored in the roadstead, until the officers of the quarantine department had come alongside, and satisfied themselves by minute inquiry, that all on board were in health; and that the place the vessel sailed from was free from cholera. If any circumstances should occur after the health-officers were on board, for sending her away to a quarantine station, they should have proceeded to sea, and not leave the ship under the penalty of being fired at, if there existed the means of doing so; and, on a reference to the heads of the quarantine department, it will be found that the course I have pointed out is that followed in all our settlements where such restrictions are considered necessary.—AUTHOR.

Total number of burials in the years,

1828,	-	538
1829,	-	521
1830,	-	479
1831,	-	750 up to 31st December.

(Signed) GEORGE LORD,
Sexton, Sunderland Parish.

Note.—I regret having omitted to ascertain the number of burials in the parishes of Bishop and Monk Wearmouth during the above periods.—AUTHOR.

[For the Tables, forming Nos. X. and XI. of Appendix, see p. 115, 116.]

No. XII.

EXTRACTS from Report transmitted to the Army Medical Board on Cholera, which prevailed in the 82d Regiment, at Grand Port, Mauritius, in March 1829.

After the long interval of nine years, I feel extreme regret at having again to report on the occurrence of spasmodic cholera here. At the period of the year when this alarming disease was first reported, the insufferable heat of summer had in a great degree subsided, and the weather was agreeably cool out of doors, during the morning and afternoon; and if any deviation from the usual state of the weather did exist, it was in the prevalence of the north-west winds during the month of March. The most extraordinary circumstance connected with the late epidemic is its occurrence at this isolated post, and not having extended its baneful influence beyond the barracks and detached cabins occupied by the married soldiers. As to diet having any effect in the production of such misery, I must deny the position. The rations and vegetables issued to the various messes are pretty uniform in quality; the water supplied to the inhabitants of the barracks is from the same source, and the mode of life of the soldiers is nearly similar, with the exception of many being more addicted to spirituous potations than others. However, in the late, as well as the former epidemic (1819), the prudent and sober characters were equally the victims of its visitation. The symptoms in the numerous patients admitted on the sick report from the commencement of the disease to its cessation varied considerably, some being free from purging and severe vomiting, and the cramps affecting the muscles not being of that excruciating nature with which others were tormented. However, in one symptom there was no deviation, that of severe pain in the stomach at the moment of feeling ill, and instantly followed by vomiting, or a desire to vomit. The dia-

phragm in almost all the patients treated was affected with spasms, and often so as to prevent vomiting, and in numerous instances respiration, attended with distressing pain and difficulty, in consequence of the continued spasms of this extensive muscle. A sudden transition from a state of perfect health and spirits to the endurance of excruciating pain and debility, is more than man can patiently submit to, and in the disease I now refer to is equally appalling to the unhappy sufferers and those who witness the distressing scene. I was fully aware of the excessive alarm that would naturally extend through this small island on the report of cholera existing here, and I hesitated to report the circumstance to the principal medical officer until the night of the second day after its occurrence. The prompt arrival of Dr Barry afforded me infinite satisfaction, as he was the only medical person who visited my hospital, and witnessed on the night of his arrival a scene not easily effaced from his recollection. The disease first occurred on the afternoon of the 14th March.

The first case reported, James Hughes, æt. 38, complained of distressing pain in the region of the stomach, immediately followed by excessive vomiting and purging; pulse feeble; great anxiety; skin moist, and natural temperature; much distress experienced from heat in the abdomen; thirst distressing; no cramps.

Warm fomentations applied over the front of the body; a pill, composed of calomel five grains, and one of opium; the sense of heat in the abdomen continued to excite much distress; and the other symptoms continued unrelieved. The following draught in two hours after:—*R Tinct. Rhei* ʒij.; *Tinct. Opii min.* xl.; *Aquæ Menthæ* ʒj.; *M.* At night the symptoms not relieved, the following draught directed:—*R Ætheris Sulphurici* ʒj.; *Tinct. Opii Min.* xl.; *Aquæ Menthæ* ʒj. *M. fl. Haustus.* On the following morning symptoms less urgent.—*R Extracti Colocynth. Comp. grana duodecim, Calomelanos grana sex. M. fl. pilulæ duæ statim sumendæ.* At night, bowels moved thrice in the day, heat in the abdomen had ceased, a warm-bath directed, and following pill after it:—*R Calomelanos grana quinque, Opii grana duo. M. fl. pilula hora somni sumenda.* Convalescence favourable from next day.

14th March, 9 o'clock p.m.—William Andrews, æt. 26, complained of pain in the region of the stomach, instantly followed by vomiting and purging; pulse feeble; skin covered with cold clammy perspiration; thirst distressing. Flannels wrung out of hot water applied over the abdomen, and the following draught given:—*R Ætheris Sulphurici* ʒj.; *Tinct. Opii min.* xl.; *Aquæ* ʒj. *M.* He became worse, and skin colder; pulse feeble (118); the fol-

lowing pill and draught taken in one hour after. No cramps in the extremities.—℞ *Tinct. Opii min. viginti, Aquæ Menthæ unciam. Ft. Haustus.*

℞ *Opii granum, Calomelanos grana quinque. M. ft. pilula.* He continued very ill until noon on the following day, 15th, and the pill and draught repeated at 6 o'clock A. M., and *Calomel. gr. quinque, Opii grana duo* at night. Convalescence from next day favourable.

At the same hour, John Everitt, æt. 26, admitted, complaining of distressing pain in the epigastric region and over the abdomen, soon after followed by watery purging, sense of chilliness, and skin covered with perspiration. Warm fomentations applied over the pained part.—℞ *Ætheris Sulphurici, ʒj. ; Tinct. Opii min. xl. ; Aquæ Menthæ, ʒj. M. Ft. Haustus statim sumendus.*

The symptoms not relieved. The following pill and draught given in one hour after:—℞ *Calomelanos grana quinque, Opii granum. M. Ft. Pilula.* ℞ *Tinct. Opii min. viginti, Aquæ Menthæ, ʒj. M.*

15th. He slept a little during the night ; but great debility ; thirst urgent ; pulse feeble ; vomited frequently ; and liquid purging continued. Warm bath, and the following pill directed:—℞ *Opii gr. duo, Calomel. gr. v. M. Ft. Pilula statim sumenda.*

The watery evacuation from the bowels ceased at noon, but vomiting continued until evening. The pill and bath repeated at bedtime. The following morning he felt much better, slept well, pulse 80, thirst had ceased, bowels not free. An aperient draught given, which operated freely towards noon. However, much pain experienced towards three o'clock, P. M. in the hypogastric region, and inability to pass urine ; not any tension perceptible ; and heretofore urine passed freely. A catheter introduced, and a pint of urine discharged. Warm bath previously used without advantage. The pill of opium and calomel repeated at night, and nitrous ether given in his common drink.

On the following morning, the urine could not be discharged ; the other symptoms much abated. A cathartic draught was directed, nitrous ether continued, and one pint of urine discharged by the catheter. Warm bath repeated in the evening.

From this day recovery rapid.

It is curious to observe, that in this patient there was no tension in the region of the bladder, not sufficient urine to prevent its natural contraction, and no impediment whatever in the urethra or neck of the bladder.

At near eleven o'clock this night, John Browne, æt. 29, admitted,

complaining of severe pain in the stomach, immediately followed by vomiting and purging. Stools liquid, and, as in other patients, without bile; shivering and coldness over the body; pulse feeble, 88; tongue white, and thirst distressing; not any spasms in the extremities. Warm fomentations applied, and a pill of calomel and opium, with an anodyne draught, similar to that already stated. He was much relieved.—R. *Calomelanos*, gr. v.; *Opii gr. duo*. M. *Ft. pilula*, taken in the morning, warm bath in the evening, and pill repeated at bed-time.

The symptoms abated gradually, but recurred with severity the sixth day after admission.

Thomas Brand, aged 25, complained of distressing pain from cramps, affecting the muscles of the abdomen, followed by constant vomiting and liquid purging; skin cold and moist; urgent thirst; and much distress from heat in the abdomen; pulse 88, feeble. The same remedies directed as mentioned in the last case. On the following day, the pill repeated, and at noon a cathartic enema exhibited. Pain in the abdomen continued; bowels moved thrice, but urine suppressed. Warm bath used at night, and pill repeated. Nitrous ether in his usual drink. The abdomen continued painful, and urine nearly suppressed until the fourth day. Convalescence from that time favourable.

At half-past four, P. M. Jonathan Stringer admitted, stated having been affected with severe pain over the belly, and particularly in the region of the stomach, soon after followed by copious vomiting and purging; stools watery; thirst distressing; and all liquids rejected.—R. *Calomelanos*, gr. quinque; *Opii*, gr. duo. M. *Ft. pilula statim sumenda*. Warm bath directed; and at nine o'clock P. M. a draught, viz. R. *Ætheris Sulphurici*, ʒj.; *Tinct. Opii*, min. xl.; *Aquæ Ment hæ*, ʒj. M.

16th. The pain in the centre of the abdomen continued unrelieved; purging and vomiting had ceased; pulse 84; thirst distressing. Cathartic pill and mixture given until his bowels were well evacuated, warm bath at night, and calomel with opium at bed-time.

17th. Severe pain felt in the epigastric region all this day. Medicines repeated with success. Convalescence favourable.

On the 15th at midnight, the wife of the drum-major was seized with agonizing pain in the region of the stomach, followed by vomiting and purging, and distressing and reiterated pain along the course of the alimentary canal. Her pulse feeble; skin moist, but cold, and great prostration of strength; thirst very urgent; and all liquids rejected from the stomach. Opium combined with calomel,

—ether and laudanum also given,—cathartic draught on the irritability of the stomach ceasing. Debility continued some days. Her husband similarly affected the day after she was taken ill. Similar remedies prescribed, and a warm bath twice a-day.

In detailing at a greater length than I did intend the cases admitted on the first day and night of the epidemic, their perusal will inform the reader that the disease did not on that day assume the formidable type which it did on the next and following days. However, in all there was that marked anxiety of countenance and shrunk features, so peculiar to cholera; great distress on the least pressure over the stomach, and frequently of the abdomen; much difficulty in breathing, in consequence of distressing pain along the course of the diaphragm. From the evening of the 14th, until the following morning, eleven patients were admitted; yet, singular to observe, that on this or any other day the disease seldom commenced its attack until after sunset,—during the night, or early in the morning; and in the former epidemic, 1819, I have to offer a similar remark.

The symptoms in the patients were pretty uniform, viz. much distressing pain in the stomach, followed by instant vomiting and purging; cramps in the abdomen, and particularly in the centre of that cavity; urgent thirst, and all liquids taken instantly rejected; urine scanty or suppressed; surface covered with moisture, but scarce ever of that degree of coldness which I have witnessed in the cholera of former years (1819 and 1820;) pulse always perceptible, and in few instances did there exist that sudden sinking of the vital powers. On this day I exhibited opium in large doses, and more frequently, in consequence of the symptoms being more violent. Where so many were admitted, it would be extending my observations to an unnecessary length to detail many cases, and shall confine myself to as few as possible.

Richard Handlon, aged forty-two, admitted half-past eight o'clock, P. M. 15th March, complained of great and distressing pain from cramps in the stomach and intestines, and instantly followed by severe and continued vomiting and purging, moaning, writhing of the body, and could not be prevented from bellowing out; surface covered with cold clammy sweat; tongue white; and thirst not to be allayed. On being seen, a pill of calomel, gr. v., and opium 2 grs. was administered; warm fomentations over the abdomen. At ten o'clock the following draught:—*R. Ætheris Sulphur. Tinct. Opii ʒj. Aquæ Mentha ʒiiss. M.* Much distress all night from cramps in the upper and lower extremities; constant vomiting and purging. The draught repeated at one o'clock. At three in the morning he was relieved from his misery, and slept some hours. Convalescence very rapid.

William Davies, aged 35, admitted at nine o'clock P. M. He complained of distressing pain in the stomach, constant vomiting and watery purging; intense thirst, and all drinks instantly rejected; pulse 100, feeble; tongue dry and furred; skin moist.

R. *Calomel*, gr. v. *Opii gr. duo*. M. Cons. *Rosæ q. s. fl. pilula statim sumenda*.

10 o'clock.—The pill rejected; vomiting and purging incessant; skin covered with clammy perspiration; upper and lower extremities affected to a distressing degree with cramps.

R. *Ætheris Sulphurici*, ʒj. *Tinct. Opii* ʒj. *Aquæ Ment hæ* ʒj. M. *Fiat haustus statim sumendus*.

The draught afforded no relief. At two o'clock the draught repeated, with some alleviation of his sufferings, and slept a short time. At four o'clock in the morning, distressing pain felt in the stomach, accompanied with incessant vomiting and cramps, affecting the muscles of the entire body. He was fomented all night with blankets wrung out of hot water and spirits; retained in bed with difficulty, owing to the torture he suffered. Six o'clock A. M., the anodyne æthereal draught repeated; and he was put into a warm bath, in which he remained half an hour, and pill repeated after leaving it. At noon an enema was exhibited, which moved his bowels thrice, the cramps and vomiting ceased, and towards evening was much better. The warm bath and pill repeated at bed-time; and from this night, no distressing symptom present. This man was in perfect health the moment he felt the shock in the stomach, and which he, as well as the other patients, stated to be similar to that experienced from a ball, or any other substance propelled with great velocity against that part. Convalescence rapid.

Owen Bowen, aged 30, was in barracks when I sent for him to act as sick-orderly, and in constant attendance on the two last patients, performing the necessary offices which their situation required; and, until a few minutes before he was taken ill, I was a constant witness to his exertions. He was seized in a moment with excruciating pain in the stomach, immediately followed by vomiting and purging; the fluids rejected from the stomach and bowels watery, and not discoloured; pulse instantly feeble; skin covered with moisture; thirst not to be satisfied, and all drink rejected.

Half-past one o'clock A. M. March 16th. R. *Hydrargyri Submur.* gr. v.; *Opii gr. ij.* M. *Fiat pilula statim sumenda*.

Two o'clock A. M.—R. *Ætheris Sulphurici*, *Tinct. Opii* a ʒj. *Aquæ Ment hæ* ʒiiss. *Fiat haustus statim sumenda*.

The pill and draught were rejected, and the draught repeated at three o'clock A. M.; blankets wrung out of hot water applied con-

stantly to the abdomen ; great distress from cramps in the extremities and stomach. 16th. Warm bath at six o'clock A. M., and the pill of calomel and opium repeated on leaving it. Until one o'clock P. M. the distressing symptoms continued ; from that hour they gradually subsided, but extreme debility present ; features shrunk ; pulse feeble ; and countenance expressive of distress. The warm bath and pill repeated in the evening ; slept well, and recovery favourable. This I consider as an instructive case of cholera, and certainly originating from close attention for some hours on the patients allotted to him.

Paul Ashurst, aged 30. 16th March, reported being well a few minutes before he was seized with distressing pain in the stomach, followed immediately by frequent purging and vomiting ; fluids rejected without bile. A pill and anodyne draught, similar to that given to Bowen, ordered on his admission. The pill rejected, and draught repeated. Vomiting and purging ceased soon after, but the distressing pain in the stomach not relieved ; warm applications over the abdomen during the night. Pill of calomel and opium repeated at six o'clock in the morning ; symptoms relieved ; and at night a warm bath, with a repetition of pill. On the following day, lower extremities affected with cramps, and much distress towards evening from pain in the stomach. The warm bath, with calomel and opium repeated at bed-time, and recovery rapid from the following morning.

John Rogers, aged 33, was brought to the Hospital at eight o'clock P. M. in a state of stupor. On being roused, stated that he was suddenly affected with severe pain in the region of the stomach, instantly followed by vomiting and purging. He was put into a warm bath, previous to which a draught of ether and laudanum was given ; and on his leaving the bath, a pill of calomel and opium. He slept little, but the vomiting or purging did not recur. Recovery favourable.

Edward Thomas, aged 20, six weeks in hospital, and convalescent from liver complaint, slept in a room over the ward occupied by cholera patients, was affected this evening with cholera. The remedies prescribed were similar to those directed for the other patients, and with relief on the second day.

17th March, 8 o'clock P. M. Thomas Dodson had been in Hospital since the 5th January, affected with epilepsy ; health in other respects good, and slept in the same ward as the last patient. He was affected with epileptic fits this evening at the usual hour of their accession, and on their ceasing felt an inclination to vomit, accompanied with severe pain in the region of the stomach, and over the abdomen ; the legs, thighs, and upper extremities soon after af-

affected with cramps ; muscles of the abdomen became as tense as a board, distressing thirst, and most painful anxiety experienced by the unhappy sufferer. He was put into a warm bath, and a draught of ether and laudanum in peppermint water exhibited. 10 o'clock, not any better ; a pill of calomel and opium taken, and blankets wrung out of spirits and hot water applied all night over the body. Not any vomiting or purging.

18th. The distressing symptoms less urgent. A cathartic draught exhibited, warm bath, and calomel with opium repeated at bed-time. In this severe case the diaphragm was affected with spasms to a distressing degree, and this patient experienced a second attack of cholera.

I shall now state a few of the cases of cholera admitted into Hospital when Dr J. Barry, Acting Physician to the Forces, was with me in the ward,

March 18th, evening, $\frac{1}{2}$ past 8 o'clock. Michael Acres, aged 30, complained of severe pain from cramps affecting the muscles of the abdomen, and distressing pain in the stomach, shortly after followed by cramps in both hands, moaning piteously, and could not rest in any position. Tongue loaded ; great thirst ; skin covered with perspiration ; pulse 104 ; not any vomiting or purging.

R. *Calomel*, gr. x. ; *Opii*, gr. ij. ; *Cons. Rosæ*, q. s. *fiat pilula, statim sumenda.*

9 o'clock. Blankets wrung out of hot water applied over the body, and a draught composed of *Æther Sulphur. et Tinct. Opii*, ad ʒi. *Aquæ Menthæ* ʒij. *M.* given.

10 o'clock. Not any relief from pill or draught. The draught repeated. The diaphragm severely affected with spasms, and to this cause I have to attribute the inability to vomit, which did occur on the following morning when the spasms ceased. Cathartics given until the bowels were moved ; at night the pill of calomel and opium repeated ; and next day he was convalescent.

George Chant, aged 31, 10 o'clock, p. m. March 18th. He was suddenly affected with severe pain in the stomach, (as if struck with a ball,) immediately succeeded with an inclination to vomit, but did not ; an alarming state of stupor supervened, and on his being brought to hospital his eyes were wide open, pupils insensible, and after some minutes could with difficulty elicit any account of his feelings ; skin moist ; pulse slow and languid.

R. *Ætheris Sulphurici Tinct. Opii*, a. ʒi. ; *Aquæ Menthæ*, ʒij. *M. Fiat haustus statim sumendus.*

He was placed in a warm bath immediately after taking the draught, and from which he derived much benefit.

At 11 o'clock a pill of calomel, five grains, and opium two grains, given, and in the course of the night the anodyne ethereal draught given, with the happy effect of causing sleep and quieting the alarming anxiety which succeeded the state of coma. Not any vomiting or purging. On the following morning a cathartic was given, and at night the warm bath, with pill of calomel and opium. Recovery tedious.

Daniel M'Enulty, aged 23.—March 18, 10 o'clock P. M. He assisted in conveying the last patient to the hospital, and ordered away immediately; was brought back in less than five minutes most distressingly ill, with severe pain in the stomach, followed by excruciating pain over the entire abdomen; cramps in the muscles of the upper and lower extremities; not any vomiting or purging; skin moist; roaring most piteously from the extreme agony he suffered. A draught of ether and laudanum given that moment, and immediately after he was put into a warm bath, in which he remained some time. On leaving it he felt some ease, and took a pill of calomel five grains, and opium two grains. However, in a few minutes after, the most agonizing pain felt over the entire system. Towards morning he became better, and was convalescent on the 20th.

William White, aged 36, admitted at eight o'clock A. M. 19th March. He was in perfect health and spirits on sitting down to breakfast, and affected in an instant with cramps in the stomach, followed immediately after with a desire to vomit, but could not; skin covered with moisture; face pale, and countenance expressive of anxiety. Dr Barry saw this patient a few minutes after his becoming ill, and I arrived soon after. An anodyne ethereal draught taken immediately. At noon the distressing symptoms continued; vomited twice; purged none; a cathartic draught directed, and in the afternoon an enema, with the desired effect. At night a warm bath, and calomel, with opium on leaving it. Convalescent on the 25th.

I have given in as brief a manner as I possibly could, with regard to the importance of the subject, a faithful history of the symptoms and treatment of the late epidemic; and must rest satisfied with the cases I have detailed, to the departure of Dr Barry on the 19th of March.

The women of the regiment live in small houses detached from the barracks, and in addition to her already mentioned, three more were affected with cholera, two of whom were distressingly ill with spasms affecting the stomach and intestinal canal, frequent and long-continued purging and vomiting, with pain in the course of the diaphragm, attended with great difficulty in breathing. The remedies so frequently alluded to were prescribed in these cases, yet in

one patient without any relief until the third day, and in another, not until the fourth day after the accession of the disease. Of the children of the regiment, only three were affected, and, with one exception, the symptoms were mild.

In concluding this report, I have to remark, that in many patients affected with sudden and distressing pain in the stomach, and along the course of the intestinal canal, unattended with purging or vomiting, but invariably a desire to vomit, extremities free from cramps, face pale, features contracted, feeble pulse, and skin covered with moisture, were much longer in misery than those who had the disease in a more aggravated form; in illustration of which I refer to the case of White on the 19th March.

One patient was affected with distressing pain at the back part of the *os hyoides* and pharynx, extending on each side of the thorax to the diaphragm, pain increased on swallowing, and continued until the sixth day from its occurrence. This peculiar symptom I referred to an affection of the phrenic nerves and *par vagum*.

I have not once referred to venesection having been prescribed in the numerous cases of cholera admitted, and must confess that I look on it as a remedy not applicable to this disease, notwithstanding the favourable reports promulgated of its beneficial effects.

I have drawn up this report from personal recollection of the sufferings of my patients, as well as a reference to the medical Register, in which I detailed, with as much accuracy as my occupations would permit, all the cases of cholera. Yet in this disease it was imperative to act at the moment on the occurrence of any urgent symptom, and consequently laudanum with ether, as well as calomel and opium, were often exhibited without being noticed in the medical reports.

Mahébourg, Grand Port,
May 1, 1829.

JAMES BUTTER KELL,
Surgeon 82d Regiment.

Note.—I have not noticed the colour of the skin in any of the reports of cases, and have to remark, that in many of the patients affected, the integuments, particularly of the extremities, were of a livid colour. In the epidemic of 1819, as well as that which is the subject of this report, I never witnessed the skin of that blue colour which has been observed in the disease on the continent, and since in this country, and to which writers have given the character of the “blue stage,” yet a bluish tinge was not an unfrequent occurrence in the epidemics alluded to.

EDINBURGH CASTLE,
October 1833.

	Remained Sept. 30, 1819	Admitted.						Total.	Discharged cured.	Died.	Remaining Feb. 29, 1820.	Remarks.
		From 1 to 31 October 1819.	From 1 to 30 Nov. 1819.	From 1 to 14 Dec. 1819.	From 15 to 31 Dec. 1819.	From 1 to 12 January 1820.	From 13 to 31 January 1820.	From 1 to 29 February 1820.				
Continued fevers, -	1	5	2	1	0	1	9	6	25	0	3	<i>Strength.</i> Officers, - 31 Rank & file, 401 Women, - 79 Children, - 95
Ophthalmic diseases, -	1	0	4	1	0	2	0	2	10	0	4	
Inflammatory sore throat, -	0	1	0	0	0	1	0	0	2	0	0	
Inflammation, lungs, -	0	1	0	0	1	0	0	0	2	0	0	
Do. bowels, -	0	0	0	0	0	0	0	1	2	0	0	
Do. stomach, -	0	1	0	0	0	0	0	0	1	0	0	
Ruptured bladder and inflam- mation of abdominal viscera,	0	0	0	0	1	0	0	0	1	0	0	
Acute liver complaint, -	1	1	2	2	1	2	2	2	13	6	1	
Chronic do. -	0	1	0	0	0	0	0	0	1	0	0	
Rheumatism, -	0	0	2	3	0	1	2	2	10	7	3	
Catarrh, -	0	1	0	3	0	0	1	0	5	5	0	
Dysentery, -	2	1	5	4	0	1	16	33	62	44	17	
Diarrhoea, -	0	0	0	1	1	1	1	2	6	6	0	
Dropsy, -	0	1	1	0	0	0	0	0	2	1	0	
Mild cholera morbus, -	0	1	0	1	0	0	0	0	2	2	0	
Epidemic spasmodic cholera,	0	0	0	0	105	36	0	3	144	129	11	
Chronic and surgical diseases,	10	17	24	6	2	2	10	11	82	72	0	
Total, -	15	31	40	22	111	47	41	62	369	307	15	
											43	

Notes.—Cholera commenced on the 15th of December; and the last case occurred on 24th February. One woman of the regiment; two negroes and one black man attached to the hospital, died of cholera; and I regret that the return of the number of women and children of the regiment, as well as blacks attached to the post who had the disease, has been mislaid.

No. XI.—Return of diseases treated in the 82d Regimental Hospital, Grand Port, during the following periods :

	Remained Jan. 1829.	Admitted.						Total.	Discharged cured.	Died.	Remaining May 1829.	Remarks.
		From 1 to 31 January 1829.	From 1 to 28 February 1829.	From 1 to 31 March 1829.	From 1 to 31 March 1829.	From 1 to 31 April 1829.	From 1 to 31 May 1829.					
Continued fever,	4	8	4	1	0	0	3	24	24	0	0	<i>Strength.</i>
Delirium tremens,	1	0	0	0	0	1	0	2	2	0	0	Officers, - 21
Ophthalmic diseases,	1	0	1	0	0	0	1	5	5	0	0	Rank and file, - 498
Inflammation, lungs,	3	4	5	1	0	0	1	16	13	3*	0	Women, - 32
Do. bowels,	1	2	0	0	0	0	1	4	3	0	1	Children, - 86
Do. kidneys,	0	0	1	0	0	1	2	4	2	0	2	Total number affected
Acute liver complaint,	7	23	15	8	2	11	5	71	62	1	8	with cholera.
Chronic do.	2	2	1	2	1	1	3	12	8	0	4	Non-commissioned offi-
Rheumatism,	2	2	1	1	0	0	1	10	9	0	1	cers and soldiers, 51
Consumption,	0	1	0	0	0	1	0	2	0	0	2	Women, - 4
Catarrh,	0	3	5	2	0	1	1	12	9	0	3	Children, - 3
Dysentery,	4	10	3	0	0	3	2	22	19	1	2	Total, - 58
Diarrhœa,	0	0	1	1	1	0	0	3	3	0	0	Epidemic spasmodic cho-
Colic,	2	1	2	1	0	0	0	17	14	0	3	lera first appeared on the
Locked-jaw,	0	0	1	0	0	0	0	1	0	1	0	14th March, and the last
Epidemic spasmodic cholera,	0	0	0	0	57	1	0	58	58	0	0	case occurred on 10th
Chronic and surgical diseases,	15	16	10	10	5	17	7	80	73	0	7	April.
Total,	42	72	50	27	66	47	33	343	304	6	33	

Note.—Two fatal cases, included in that number, occurred in the persons of Government blacks attached to the military post.

